ANNUAL REPORT

OF THE

BOARD OF HEALTH

OF THE

City of Newark, New Jersey

For the Year Ending December 31, 1916

WITH THE COMPLIMENTS OF THE

BOARD OF HEALTH

OF NEWARK, N. J.

THIS DEPARTMENT WOULD BE GLAD TO RECEIVE YOUR PUBLICATIONS IN RETURN

CHARLES V. CRASTER, M. D., D. P. H.
HEALTH OFFICER

Newark Board of Health Building and City Dispensary, William and Plane Streets

ANNUAL REPORT

OF THE

BOARD OF HEALTH

CITY OF NEWARK, NEW JERSEY

A description of the activities along the lines of Public Sanitation, Disease Prevention, Pure Food and Milk, as well as other efforts to improve the living and health conditions of the community.

FOR THE YEAR ENDING DECEMBER 31, 1916

THE ESSEX PRESS, PRINTERS
NEWARK, N. J.

"Preventive Medicine is largely concerned with endeavors towards the attainment of Isaiah's ideal (Isaiah, Chapter lxv. 20), 'There shall be no more thence an infant of days, nor an old man that hath not filled his days: for the child shall die an hundred years old.'"—*Newsholme.*

To THE READER:—The activities of the various divisions of the Board of Health are here set forth. The results are more truly reflected in the improved conditions of life in our community.

CHARLES V. CRASTER, M. D., D. P. H.,
Health Officer.

Newark, N. J., March, 1917.

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FOR THE YEAR 1916

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MR. RAU — MR. KIRKPATRICK

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MR. CALLAN

MR. PARKER — DR. WHERRY

MEETINGS

BOARD OF HEALTH

Meetings held in the Board of Health Offices, William and Plane Streets, Newark, N J

The regular meeting of the Board is held on the First Tuesday of each month at 8 30 P. M for the transaction of all business.

The regular meetings of the Sanitary Committee are held on the Thursday preceding the First Tuesday of each month at 8 30 P M

NOTICE

The printing and publication of this Report is paid for out of the funds of the City, and for the information of taxpayers Copies may be had without charge on application to the Board of Health, Plane and William Streets, Newark, N J

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226 South Tenth Street.

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1124 Broad Street

DR H S MARTLAND — *Pathologist*
1138 Broad Street

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MELVINA ALLEN	Nurse
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SUPERVISOR OF MIDWIFERY

ELIZABETH AITKEN ..... 249 North Sixth Street

SECRETARY

ANNA E HORN ..... 532 South Thirteenth Street

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2nd DISTRICT DR MARY BROADNAX—Tichenor Street from Adams Street to Broad Street, Clinton Avenue, City Line and Avenue F

3rd DISTRICT—DR W F L RODEMANN—Adams Street from Market Street to Tichenor Street, Broad Street and Market Street

4th DISTRICT—DR. SAMUEL HIRSCHBERG—Broad Street from Central Avenue to Clinton Avenue, High Street, South Orange Avenue, Bergen Street, Warren Street, Sussex Avenue and Central Avenue

5th DISTRICT DR WILLIAM FISCHER—Clinton Avenue from City Line to High Street, South Orange Avenue, Bergen Street, Warren Street, Central Avenue and City Line

6th DISTRICT DR MEYER JEDEL—Fulton Street from Passaic River to Central Avenue, Sussex Avenue, Warren Street, Central Avenue and City Line.

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MEDICAL, 9 A M daily except Sunday

DISEASES OF CHILDREN—10 A M daily except Sunday

SURGICAL—9 A M daily except Sunday

GENITO URINARY—Monday and Thursday, 10 A M

CYSTOSCOPY Wednesday, 10 A M

DISEASES OF WOMEN—Tuesday and Friday, 3 P M

DISEASES OF SKIN Tuesday and Friday, 9 30 A M

SYPHILIS—Male, Wednesday, 3 P M Female Friday, 9 30 A M

EYE, EAR THROAT AND NOSE—Monday, 3 P M

DISEASES OF RECTUM Tuesday, Thursday, Saturday, 10 A M

NERVOUS DISEASES Friday, 2 P M

ORTHOPEDIC—Tuesday, Thursday, Saturday, 10 A M

DENTIST Monday, Wednesday and Friday 1 P M

PRENATAL—Thursday, 3 P M

TUBERCULOSIS

CHILDREN—Examination and serum, including glands and joints, Monday and Thursday, 3 P M

CHILDREN—Physical, Wednesday, 3 P. M

ADULTS—Tuesday, Thursday and Friday, 3 P M

ADULTS—Laryngeal, Wednesday, 3 P M

Examination Days for Admission to Sanatoriums:

VERONA—Monday, 10 o'clock

GLEN GARDNER—Wednesday, 10 o'clock

SOHO—Thursday, 10 o'clock

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ANNUAL REPORT

OF THE

HEALTH OFFICER

FOR THE YEAR 1916

ANNUAL REPORT

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HEALTH OFFICER

FOR THE YEAR 1916

To the Members of the Board of Health:

GENTLEMEN I beg to submit the following report of the activities of the several divisions of the Board of Health for the year 1916

THE DEATH RATE.

The death rate for the city in 1916 was 16.5 per 1,000 upon an estimated mid-year population of 385,000. This is the highest death rate since 1910 The increase in the rate over former years was due to the prevalence of certain epidemic diseases accompanied by an abnormal mortality. Of particular note in this respect was the unusual visitation of poliomyelitis in the four months of July, August, September and October, as well as of measles during the early Spring months of 1916.

There were other circumstances, however, which made an increased number of deaths. The death rates from the principal causes of death showed increases in 11 out of 17 causes enumerated

CRUDE DEATH RATES FOR NEWARK ACCORDING TO CENSUS AND INTERCENSAL ESTIMATED INCREASES

YEAR	POPULATION.	NO. OF DEATHS	DEATH RATE.
1894	203,923	4,543	22.28
1895	215,725	4,615	21.37
1896	225,000	4,716	20.96
1897	230,000	4,010	17.43
1898	235,000	4,303	18.30
1899	240,000	3,537	18.90
1900	246,070	5,006	20.34
1901	250,000	4,806	19.22
1902	255,000	4,943	19.38
1903	266,000	4,923	18.50
1904	272,000	5,378	19.77
1905	283,289	5,025	17.74
1906	290,000	5,551	19.14
1907	300,000	5,724	19.08
1908	305,000	5,207	17.07
1909	311,000	5,529	17.77
1910	347,469	5,784	16.64
1911	352,000	5,337	15.16
1912	370,000	5,423	14.65
1913	380,000	5,562	14.63
1914	395,000	5,809	14.70
1915	375,000	5,382	14.30
1916	385,000	6,357	16.50

MORTALITY FROM EPIDEMIC DISEASES.

The mortality for scarlet fever amounted to 1.8 per 100,000 of population. This with the exception of last year is the lowest recorded mortality from this disease in Newark. It would appear that there has been a considerable decrease in the virulence of scarlet fever as a cause of death. As far back as 1894 the death rate amounted to 3.38 per 100,000 of population, and in 1904 this rate reached 1.41. We have reason to be satisfied with the decrease from this cause of death.

The mortality from diphtheria amounted to 14.8 per 100,000 in 1916. There has been somewhat of an increase in deaths from this disease since 1914. There is, however, considerable cause for satisfaction in the low death rate

from diphtheria as compared with former years, that recorded for 1895, for instance, was 126.6 per 100,000 population.

There can be little doubt that the lowering of this death rate is due to the more widely extended use of diphtheria antitoxin ever since the year 1895, when this remedy was introduced into general use.

The deaths from typhoid fever are a true reflex of the sanitary conditions in a city population. The mortality from this disease in 1916 was 6.0 per 100,000 of population. This, although an increase of 3.1 per 100,000 over last year, compares very favorably with the death rate in previous years. In 1895 this rate was 23.2 per 100,000, and in 1899 it was 25.0.

MORTALITY FROM SCARLET FEVER, DIPHTHERIA AND TYPHOID FEVER PER 100,000 POPULATION FROM 1894 TO 1916.

YEAR	SCARLET FEVER	DIPHTHERIA	TYPHOID FEVER
1894	33.8	.	16.7
1895	16.2	126.6	23.2
1896	7.6	96.9	20.9
1897	23.5	59.6	14.3
1898	6.4	56.6	17.4
1899	14.2	51.7	25.0
1900	22.4	58.1	20.3
1901	9.2	41.2	22.8
1902	18.0	41.2	18.4
1903	26.7	45.1	23.7
1904	44.1	55.1	14.7
1905	15.9	38.8	14.1
1906	11.7	34.1	17.2
1907	13.7	31.7	23.0
1908	29.2	21.6	11.5
1909	22.5	33.8	12.5
1910	11.2	29.9	12.7
1911	6.0	21.0	10.5
1912	3.0	24.6	7.0
1913	6.9	28.9	7.9
1914	6.8	10.4	6.6
1915	1.6	13.1	2.9
1916	1.8	14.8	6.0

The deaths from epidemic meningitis amounted to 5.7 per 100,000 in 1916, as compared with 2.7 per 100,000 in 1915. These figures would indicate an increasing prevalence of this disease in the community. It is probable that mild cases are escaping recognition and that susceptible material is present in the community in large amount.

MORTALITY FROM PRINCIPAL CAUSES OF DEATH PER 100,000 POPULATION, 1915 AND 1916.

DISEASES	1915	1916
Typhoid Fever	2.9	6.0
Measles	5.1	26.5
Scarlet Fever	1.6	1.8
Whooping Cough	6.9	6.5
Diphtheria	17.3	14.8
Epidemic Meningitis	2.7	5.7
Poliomyelitis	0.3	97.4
Influenza	4.5	11.7
Pulmonary Tuberculosis	192.8	177.9
Cancer	94.4	87.0
Apoplexy	75.2	89.1
Organic Heart Disease	134.4	128.8
Lobar Pneumonia	100.5	129.1
Broncho Pneumonia	50.7	68.6
Infantile Diarrhoea (under 5 years)	78.1	68.6
Bright's Disease	125.3	182.9
Accident	58.7	78.7

INFANTILE DEATHS

The mortality from infantile diarrhoea and enteritis under two years of age was 64.4 per 100,000. This is a low rate from this cause, on which the city may be congratulated, and compares favorably with the rate of 80.0 per 100,000 estimated for the Registration Cities in 1913.

The mortality in this group is a barometer of the health conditions of the infant in any community. It is, also, a true preventable mortality, and this good showing for our city should spur us on to further efforts to reduce the death rate among babies, inasmuch as there is every reason to suppose that the infant mortality under two years of age can be made to reach the vanishing point

DEGENERATIVE DISEASES.

In a survey of the city mortality for the past year particularly noticeable is the persistent high rate in mortality in another group known as the "wear and tear" diseases, including Bright's Disease, Organic Heart Disease, Apoplexy and Lobar Pneumonia.

These deaths occur principally within the limits of thirty to sixty-five years of age.

In comparison with 1915 our death rate from these diseases per 100,000 population is as follows:

	1916	1915
Bright's Disease	182.8	125.3
Lobar Pneumonia	129.1	100.5
Organic Heart Disease	128.8	134.4
Apoplexy	89.0	75.7

It will be seen that there is an increased mortality from all the above with the exception of Organic Heart Disease

Bright's Disease and Apoplexy are definitely associated with the degenerative changes of late periods of life and belong to the chronic types of diseases. Lobar Pneumonia, although not belonging strictly to this group, is associated with definite conditions and frequently waits upon the lowered vitality incident to age.

That deaths from these causes are preventable has been shown by the recorded death rate of other countries, in which the rates for this cause have tended to fall, whereas

in this country the tendency has been for an increased mortality. In New Jersey there has been of late an increase in the deaths for ages above forty.

Year by year the deaths from degenerative diseases assume a greater importance in our mortality tables. How far such deaths are truly preventable in our present modes of living and in industrial occupations is a fruitful subject for discussion. There would seem to be more than one factor at work favoring the prevalence of certain disease which would well repay our careful study and toward which our new conception of health maintenance as well as disease prevention requires to be more and more directed.

It is probable that in the majority of deaths from Bright's Disease the fatal termination was the end of an infection dating back to a childhood attack of Scarlet Fever or other epidemic disease. A congenitally damaged organ may be equal to exercise the needs of youth and the growing adult life. In later age periods the stress and strain of business worry, the excessiveness in eating and drinking, in occupation and in pressure and their attitude to an already overburdened machinery with the result that chronic processes are engendered in highly specialized organs which it is difficult or impossible to restrain. We have here a considerable moderation that the control of childhood infections will eventually do much to diminish our death rate from Bright's Disease in the late age periods.

The increase in the Apoplexy rate would indicate a further facing away from the standards of right living. Apoplexy results as the final ending of a condition known as atheroma brought on by improper food, want of exercise and fresh air, in short, a life of perhaps mental activity with the minimum of regard to physical requirements. This condition is in many instances also the result of alcoholism and late syphilitic processes.

The mortality rate from Organic Heart Disease has somewhat diminished for 1916. Under this heading many

deaths were formerly included owing to an insufficient knowledge of the true cause of death. This was probably the case with many deaths due to cerebral hemorrhage or apoplexy, a too credulous physician frequently using organic heart disease as a convenient term to meet the necessity of giving some cause of death.

The deaths from organic heart diseases are similarly in the majority of cases the results of damage done to the heart by rheumatism, or scarlet fever in early life. A damaged heart will recover sufficiently to carry over the early adult years, but in the period of middle life when the results of stress and strain are greatest, the demand for continuous activity will search out and finally exhaust the reserve of such damaged organs.

For this reason it is particularly important to emphasize the necessity of prompt diagnosis and treatment of early rheumatic symptoms in children. Rheumatism is a microbic infection due to unhygienic surroundings and a disregard of the principle of right living.

The increasing mortality from Lobar Pneumonia indicates also that something is wrong with our modern way of living that renders the middle aged adult particularly liable to this disease. The prevalence is undoubtedly greater among males, 300 deaths out of 497. The greater number of deaths from this cause were between forty five and sixty-four years. A greater attention to air and exercise and a due appreciation of the value of the outdoor life in winter as well as in summer would do much to harden us against attacks of pneumonia.

CONTAGIOUS DISEASES.

The main event of contagious disease prevalence in 1916 was the outbreak of the epidemic of poliomyelitis, which is described elsewhere in this report.

DIPHTHERIA.

There were 123 cases of diphtheria, the case mortality was 6 1 and in fatal cases treated with and without antitoxin.

The Sanitary Code of the city now requires that negative cultures be obtained from exposed persons where they are likely to mix with the public, especially with regard to children and workers in department stores Due observance of this ordinance should go far to eliminate the healthy carrier whose unsuspected condition is frequently a cause of diphtheria's spread in families where there are children Particular attention is merited by the report of the Bacteriologist in which attention is drawn to the fact that of 884 cases of diphtheria receiving antitoxin, the case mortality was 4 , and of 39 cases that did not receive antitoxin the mortality was 38 6 Dr Connolly states that the difference between the results of the two kinds of treatment is so clear that even when we allow for all kinds of error in arriving at conclusions we can in no way bring the final figures together

It will be noted from the above statements that practically all cases of diphtheria at Newark are treated with diphtheria antitoxin There were only 39 out of a total of 23 cases that did not receive injections of the serum, so that the use of antitoxin in this disease is generally regarded as routine "

A point of particular importance in connection with diphtheria prevalence is the observation that many cultures have been received for diagnosis on the same day on which the patient died In this way the examination of cultures could not be begun until 24 hours after death This would indicate that parents or guardians of children do not seem to recognize the gravity of throat conditions in the very early stages, and that a physician is frequently not called until all chance of curing the diphtheria is gone

SCARLET FEVER

There were 885 cases of scarlet fever reported to the city in 1916, the death rate being 1.8 per 100,000. The greatest prevalence of the disease was in March, April, May and June. The cases, however, were accompanied by a very low case mortality. Scarlet fever shows an increasing tendency to become less virulent, the mortality from this disease having decreased very materially within the last 20 years.

MEASLES.

In 1916 there were 8,283 cases of measles with 102 deaths ascribed directly to the disease, a case mortality of about 1.2. This is probably a low estimate, for in many of the fatal cases the cause of death is put down to a complication, usually broncho pneumonia.

The disease shows considerable difficulty in its control by the means now at our disposal. It is probable that some practical way of immunizing susceptible children will be evolved in the near future

The fact that in measles the primary catarrhal stage before the appearance of the rash is infectious makes our quarantine and isolation measures and placarding of infected houses of little value. Such measures as we are able to take will not prove of any lasting benefit until the public recognizes the necessity of suspecting all cases of cold and catarrh among children during the prevalence of measles.

TYPHOID FEVER

The number of typhoid fever cases reported during the year was 126, being an increase of 18 over 1915. It is certain that this increase in the disease is not due to any water borne infection, for our water supply has been consistently above suspicion. By far the greater number were reported during the summer months of August and September and

early Fall, during which nearly half the cases (78) were reported. Investigation of the case history shows that these cases were infected outside the city. Those cases which did arise in the city were probably infected from food or from direct contact with healthy carriers of the typhoid bacillus.

WHOOPING COUGH.

It is satisfactory to realize a considerable decrease in the whooping cough prevalence in the community, there being only 824 cases reported during 1916, as compared with 1,844 in 1915. The adoption of the ordinance providing for the wearing of an armband by children suffering from whooping cough when in public places may have had considerable influence in reducing the exposure of susceptible children.

TUBERCULOSIS.

The prevalence of tuberculosis as indicated by the reported cases would show a considerable increase over 1915, there being 2,419 cases, as compared with 2,146 in 1915. By far the greater number of these tuberculosis cases are due to pulmonary tuberculosis. The death rate from tuberculosis heads the list of true preventable deaths with a mortality rate of 201 per 100,000 of population. Pulmonary tuberculosis alone was responsible for a rate of 177.9 per 100,000 in this city. The Newark death rate from pulmonary tuberculosis compares very unfavorably with that of other cities, notably

Chicago, with a death rate of 129.0 per 100,000.
Brooklyn, with a death rate of 134.9 per 100,000.
Buffalo, with a death rate of 140.4 per 100,000.
Boston, with a death rate of 146.1 per 100,000.
New York, with a death rate of 150.0 per 100,000.
Philadelphia, with a death rate of 170.3 per 100,000

Newark's tuberculosis prevalence and mortality is too high, and we must as a community recognize the gravity of the figures herein set down. It must be remembered that the figures of tuberculosis prevalence by no means represent the actual number of such cases in our community. Upon the basis of a 10 per cent mortality alone there would be at least 8,000 cases of the disease in the city, indicating that not one third of the existing cases are known to the physicians.

THE REASON FOR TUBERCULOSIS PREVALENCE.

It is well known that workers in dusty trades are more liable than others to develop pulmonary tuberculosis. The dusty trades alone are not, however, the sole cause of excessive tuberculosis prevalence in industrial centers for the reason that every trade, profession and occupation is represented in our death records from the disease. We will have to go further afield for explanations for its prevalence in mixed communities. Due weight must be given in this regard to the importance of housing and home conditions of the worker as a powerful predisposing cause as well as to the social habits during work and during idle hours which culminate in a neglect to carry out simple and homely precautions of personal hygiene and personal protection. It is certain that by carelessness and indifference to personal safety almost anyone could develop tuberculosis were they so inclined.

CHILDHOOD INFECTION.

Within recent years much information has been obtained relative to the prevalence of tuberculosis in exposed children, and it has been shown that the child is more susceptible to the disease than the adult. In confirmation of this point the result of work carried out in our Dispensary Tuberculosis Clinics has shown that between 75% and 80% of all children exposed to tuberculous relatives at

home eventually became infected. It was further shown that a child may be infected for many years to become an active case of tuberculosis at some future time. It may well be that the childhood infection is the great reservoir which is feeding us our tuberculosis prevalence in young adult life. It is important to know that treatment in sanatoria may prevent such cases becoming active at a later period.

THE NEED FOR SANATORIUM BEDS

The great need at this time is adequate hospital accommodation for our advanced cases where home conditions are such that hospital treatment should be resorted to. The field work of the nurses of the Division of Tuberculosis is hampered by inadequate hospital beds for the cases urgently in need of care and attention. Indeed any intensive work by the nurses is impossible or less adequately supported by a sufficient number of beds to take all cases requiring hospital treatment. There are hundreds of patients in need of hospital treatment at this time, and many die before accommodation can be found for them.

The two hundred beds available in the County and City Sanatoria for tuberculosis cases are inadequate for the great number requiring hospital treatment in the city. The minimum number of beds to adequately care for tuberculosis cases suggested at the New Jersey Joint Conference on Tuberculosis held in December, was one bed for each death from tuberculosis.

Seeing that last year our deaths from tuberculosis numbered 577, we should have at least eight hundred beds provided at once by the Board of Freeholders.

INFECTED FOOD HANDLERS

The inadequate number of beds available for open cases of tuberculosis becomes a particular menace to the public health because of the many food handlers who are com-

pelled to follow their occupation until exhaustion forces them to seek the charity of relatives or relief associations

The Director of the Division of Tuberculosis reports that up to November 1st 1916, 123 food handlers suffering from tuberculosis were following their occupations of butcher, beef handlers, waiters, cooks, confectionery assistants, bakers, fish dealers grocery clerks and restaurant keepers

Eighty three handle drink as bartenders, saloon keepers soda clerks and milk dealers There were also thirty nine cases reported with the occupation given as cigar makers, and thirty-seven cases reported with the occupation given as barbers.

PNEUMONIA.

During 1916 there were 2,633 cases of pneumonia reported, of which 1,577 were lobar and 1,056 broncho pneumonia.

There seems to be a greatly increased prevalence of lobar pneumonia Many of these cases are amongst colored laborers who had come North to supply deficiency of labor in the various factories of the city. The death rate among colored people suffering from pneumonia is very high and they seem to have very slight resistance Particularly is this the case where there has not been any period of time for the proper acclimation of such individuals.

Our long and cold winter is only withstood by natives from the South who have had at least six months or more residence in this locality It would be extremely desirable that such importation of labor be done in the Spring or Summer months, otherwise it is an economic mistake to bring this class of people here, who are physically unprepared to meet the conditions found in this climate.

Bound up with the colored labor problem at present in this community is the question of housing There seems to be a singular deficiency of apartments or tenement buildings where colored people can be housed by themselves It

would seem that there is considerable opportunity for a safe investment in the building of suitable tenements or multiple family houses for this purpose. There are also many social and sanitary problems to be solved in connection with the character and the ways of living among colored people, seeing that they are invariably different from the accepted standards of our Northern climate.

There is a considerable increase in the necessity for sanitary supervision, and it has been our experience that much additional work will be required by the various organizations working amongst colored people, so that they may be instructed and informed as to the best ways to live.

THE CAUSE OF CONTAGIOUS DISEASES

In 1916 there were 12,801 cases of contagious disease in Newark, every one of which was infected from a preceding case. Of this number alone 8,583 were cases of measles. In all instances they were reported by physicians, the premises were placarded by the Board of Health, every family was visited by our Health Inspectors, who advised as to isolation and quarantine of the infected individual.

Seeing that the knowledge that measles, diphtheria, scarlet fever and whooping cough are spread by infected nose and mouth secretions is well known in the community, why, therefore, do these diseases exist in so widespread and unchecked a manner among us?

The explanation of all this is simple. The failure of the attendant and the family to recognize the necessity of observing the most elementary rules of isolation and quarantine. It presumably is the result of total disregard of known instructions given by physicians or reluctance to admit the presence of infection in the family. It is plain that contagion is not recognized in the home, and if any isolation rules are observed they are so lax as to be useless. It looks as if the prevention of contagion was regarded as

the function of the Board of Health instead of being, as it should be, the duty of everyone in the home circle.

This laxity in carrying out the simple rules of isolation has been ascribed to the too great reliance placed upon the effectiveness of terminal fumigation to protect against infection. Be this as it may, there is evident a woeful neglect of proper precautions in the homes of the people. Control of contagious disease is simple and rests upon the knowledge that the patient is the infective agent until the isolation period has passed A radical change in the appreciation of the responsibility in the individual and the public is no more necessary than in the homes where contagious diseases exist. The only remedy for this state of affairs is a closer supervision of cases of contagious disease. There is no more effective work than that carried out on these lines by visiting nurses, and there is great need of such being provided for our Division of Contagious Diseases, where they will have an opportunity of going into the homes of the people and giving the requisite instructions to parents and guardians of children as to the duty of such in protecting the public against infection. A proper view of the necessity of isolation in contagious diseases can also be adequately given through the efforts of the attending physician The doctor is required by the State Sanitary Act of 1917 to so instruct the parents and attendants and the fact cannot be too frequently emphasized that the physician himself by his training and knowledge represents the Board of Health, which stands behind him in his efforts to enforce the proper and safe isolation in contagious disease

It remains that the effective elimination of childish diseases must come from the public itself and from the homes of the people first. The duty to one's neighbor must be more clearly defined as well as the duty to the child.

The control of contagious disease might well be included in the curriculum of the public school and in that of our

colleges, it could with advantage be taught in women's clubs and in places where the women of the household can be reached. The institution of proper isolation and quarantine measures is as much a personal and family affair as it is a Board of Health business. It is time that parents became familiar with all these things and that they should insist upon up-to-date and scientific treatment in all cases that the other members of the family be not only protected by rigorous isolation, but also be given the immunity provided by protective vaccines and sera furnished for each disease. The Board of Health cannot supervise every case of contagious disease every day, and always must depend very largely upon the honesty and public spirit of parents to carry out proper measures of isolation and quarantine as well as upon the very needful co-operation of the attending physician.

Respectfully,

CHARLES V. CRASTER, M. D., D. P. H.,
Health Officer.

POLIOMYELITIS*

SOME FEATURES IN CITY PREVALENCE

By Charles V. Craster, M. D., D. P. H.,
Health Officer, Newark, N. J.

HISTORY

The wave of infantile paralysis of 1916 appears to have been the crest of a prevalence curve which has been increasing in height since 1907, in which year the city of New York experienced an epidemic of 2,500 cases. This was the first large visitation of poliomyelitis in the United States.

TABLE 1.—DISTRIBUTION OF CASES.

MONTH	CASES	DEATHS
July	327	97
August	883	226
September	150	40
Total	1,360	363

It is probable that a fresh impetus was given to the disease in America from that date as a result of direct infection brought from Europe for the reason that the unusual prevalence of poliomyelitis in Norway and Sweden in 1904 and 1905 spread rapidly to the contiguous countries.

It is certain that prior to 1907 poliomyelitis had not shown the same disposition to spread widely among exposed populations, and that the rural population suffered more than that of the cities. The cases in Louisiana in 1841, recorded by Colmer, were few in number. The only epidemic of large size on record previous to 1907 was that of Rutland, Vt., in 1894, in which there were 132 cases and

*Reprinted from the *Journal of the American Medical Association*, May 26, 1917, Vol. LXVIII.

eighteen deaths. The increase in the spreading power of the disease within recent years may be explained on the assumption that a new and powerful virus has been at work among the susceptible population.

It is unlikely that any modern living conditions are factors which are producing a hypersusceptibility. Be that as it may, it is evident that since 1907 the disease has established itself throughout the United States. In 1910 it was reported as being present in thirty six States of the Union in that year there were 5,093 cases and 825 deaths.

For the reason that the epidemiology of poliomyelitis is sufficiently known to establish its status as a contagious disease, it was natural to expect that Newark would not escape infection when the disease became epidemic in New York during the last week of June, 1916.

The two cities are separated by less than thirty minutes' journey by rail, and there are many similarities to New York in the make up of Newark's mixed population of 400,000.

This conjecture was verified by subsequent events, and there is every reason to suppose that the invasion of Newark by the disease was encouraged by the ready accessible transit facilities between the two cities.

Statistics show that poliomyelitis is constantly present in cities as well as in rural communities in small foci of prevalence. This endemic type however, is of low virulence, there is little inclination to spread widely among the population, and the mortality is low. In the six years previous to 1916 there were ninety five cases of infantile paralysis reported in Newark with four deaths, a case mortality of a little more than 4 per cent.

The monthly incidence of poliomyelitis in Newark in 1916 corresponded to the observations of Lovett and Richardson in Massachusetts in 1909 and 1910.

In the three months of July, August and September, 1916, there were 1,360 cases of the disease reported in Newark with 363 deaths, a case mortality of 26.3 per cent.

The incidence curve was highest during the week ending August 12, when 260 cases were reported. The highest case mortality was in the third week of July, when 37.5 per cent of the cases had a fatal termination. After this date the decline in incidence and mortality was consistent, so that in the last week of September there were but twelve cases and one death

TABLE 2.—POLIOMYELITIS CASES AND DEATHS BY SEX AND AGE AT NEWARK, N. J., JULY 3 TO SEPT 30, 1916, INCLUSIVE.

AGES	MALES		FEMALES		TOTAL		Case Mortality
	Cases	Deaths	Cases	Deaths	Cases	Deaths	
1 month	2	2	1	1	3	3	100 0
2 months	7	3	5	1	12	4	33 3
3 months	4	1	3	0	7	1	14.3
4 months	9	4	4	0	13	4	30 8
5 months	5	3	3	1	8	4	50 0
6 months	12	7	12	3	24	10	41 7
7 months	12	5	9	5	21	10	47 6
8 months	11	4	9	0	20	4	20 0
9 months	12	1	10	1	22	2	9 1
10 months	13	4	13	6	26	10	38 5
11 months	15	4	11	1	26	5	19 2
Under 1 year	102	38	80	19	182	57	31 3
1 year	187	50	128	43	315	93	29 5
2 years	169	56	125	26	294	82	27 9
3 years	137	30	83	15	220	45	20 5
4 years	79	19	50	14	129	33	25 6
Under 5 years	674	193	466	117	1140	310	27 2
5 years	39	9	31	7	70	16	[illegible]
6 years	22	7	24	6	46	13	28 3
7 years	11	1	15	1	26	2	[illegible]
8 years	11	0	3	0	14	0	0 0
9 years	4	2	7	1	11	3	[illegible]
From 5–9 years	87	19	80	15	167	34	20 4
10–14 years	14	6	13	6	27	12	44 4
15–19 years	2	1	5	0	7	1	14 3
20–24 years	3	1	4	3	7	4	57 1
25–29 years	1	1	3	0	4	1	25 0
30–34 years	1	0	1	0	2	0	0 0
35–39 years	5	1	0	0	5	1	20 0
40–44 years	1	0	0	0	1	0	0 0
Total, all ages	788	222	572	141	1360	363	26.7

The highest weekly prevalence of poliomyelitis August 12 was accompanied by a mean temperature of 76 F., the highest but one of all the summer, and a mean humidity of 69 per cent; the total rainfall for the week was also low. During the week previous to the highest incidence, the highest mean temperature and the least rainfall of the whole summer occurred, and the mean humidity at the same time was low.

The case mortality throughout the epidemic, indicating perhaps a fluctuation in the virulence of the infecting germ, varied considerably during the three months in question. Apparently there was an initial high mortality for the week ending July 22, 37.5 per cent of the cases. A high mark was reached again in the week ending September 9, 35.5 per cent of the cases, and again for the week ending September 23, when 33.3 per cent of the cases had a fatal termination.

WARD DISTRIBUTION.

The first case of epidemic poliomyelitis appeared, July 3, in the Tenth Ward (Fig. 1). By July 8, the end of the first week of the epidemic there were ten cases reported from this ward as well as two from the Thirteenth Ward, and one each from the Fourth and Fourteenth Wards. The Fourth Ward is contiguous to the Tenth. The Thirteenth and Fourteenth Wards are separated from the Tenth by three city wards.

From this it would seem that the infection was of a multiple nature and arose from more than the one focus in the Tenth Ward. The appearance of the pin map of the first hundred cases (Fig. 1) suggested the existence of two areas of prevalence. A primary area with the Tenth Ward as a starting point, which eventually embraced the Fifth and Twelfth Wards, and a secondary area, sharply defined which included a very congested and thickly populated neighborhood, comprised the Third, Fourteenth, Thir-

teenth, Sixth, Seventh, Fifteenth and Sixteenth Wards (Fig. 2)

Some areas especially noticeable in the second pin map indicate a division into even smaller groups, notably one of

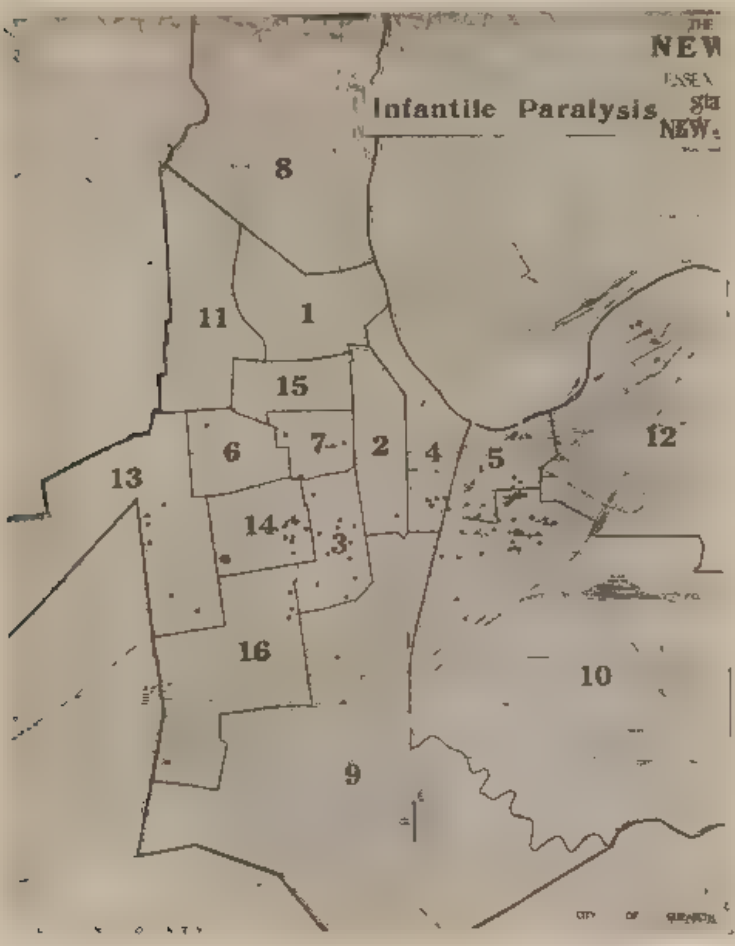

Fig. 1.—The first hundred cases at Newark, N. J.

seventeen cases sharply circumscribed in the Twelfth Ward (northeast corner, Fig. 2), one of fifteen cases at the outer boundary of the Eighth Ward (north part, Fig. 2), and

another one of twenty three cases in the eastern side of the Thirteenth Ward.

In the primary area, the first to become infected, the Tenth Ward, has a population consisting of Italians, Russians, Poles and Polish Jews. These people are junk deal-

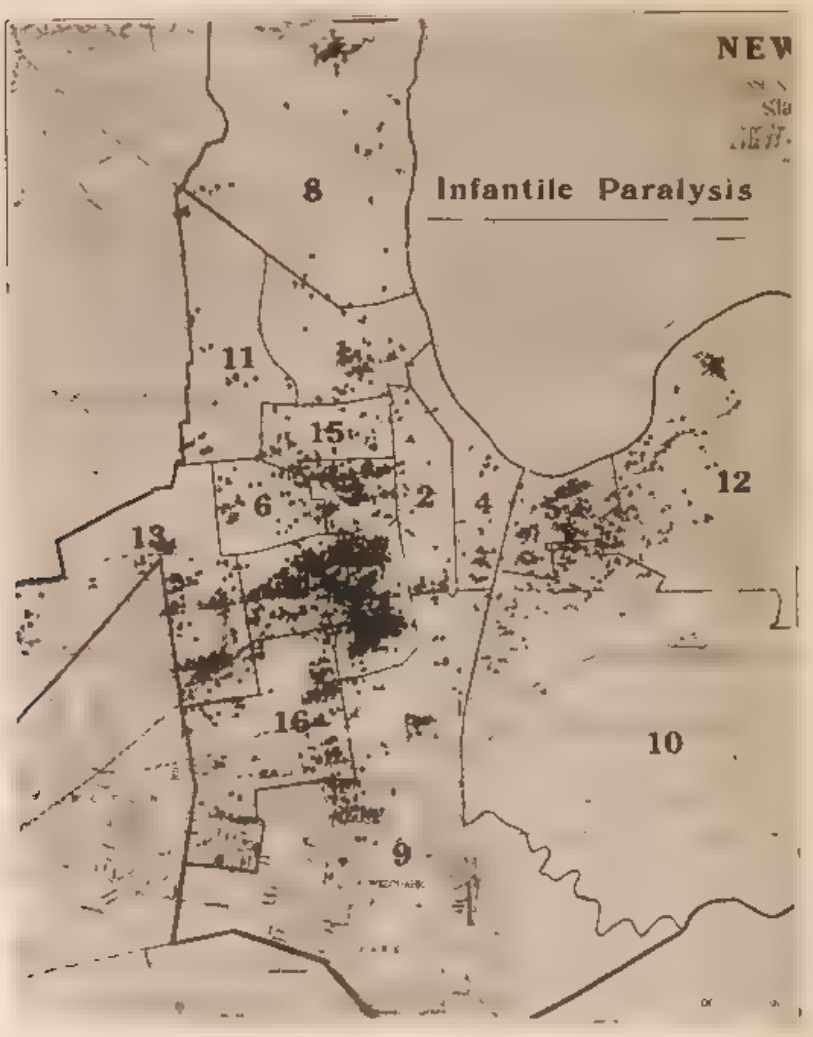

Fig 2.—Complete cases, July, August and September, 1916.

ers, rag peddlers, laborers and keepers of small stores, there are also a few factories in this area. The secondary area is made up of a population comprising Russian and

Polish Jews, with some Italians and Germans. Every kind of small family industry is carried on in the homes in this section, which is probably the most congested part of the city. There are many tenement houses, the sanitary conditions of which are not of the best.

The Tenth Ward, infected first, attained its maximum of cases in the week ending July 15, after which the prevalence rapidly declined, showing a deficiency of suitable epidemic material. The case mortality, however, was high, 37.5 per cent., the second highest of all the wards. The picture presented in the ward map shows how the cases rose gradually to a pinnacle and then slowly declined, each ward reaching its highest incidence in different weeks of the epidemic.

By the end of the second week of July, ten city wards out of sixteen had been invaded by epidemic poliomyelitis.

Cases from all sixteen wards were not reported until August 5, the fifth week of the epidemic.

POSSIBLE FACTORS OF SPREAD.

The firs case of epidemic poliomyelitis was reported, July 3, 1916, in a nursing baby in the family of an express driver, whose business daily took him to Brooklyn and New York, where he delivered and collected express packages between the two cities. There was no history of exposure to infection other than this, no member of the family had been out of Newark in many months.

In the total number of 1,360 cases during the three months of July, August and September a direct history of exposure to a previous case was obtained in seventy nine instances. In none of these cases could any infection be traced to schools or to any one common point of origin.

TABLE 3 PERCENTAGE DISTRIBUTION

AGES	MALES		FEMALES		TOTAL	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Under 1 year	12 9	17.1	14.0	13.5	13.4	15.7
1 year	23 7	22.5	22.4	30.5	23.2	25 6
2 years	21 4	25 2	21 9	18 4	21 6	22 6
3 years	17 4	13 5	14 5	10 6	16 2	12 4
4 years	10 0	8 6	8 7	9.9	9 5	9 1
Under 5 years	85.5	86.9	81.5	83.0	83 8	85 4
5 to 9 years	11.0	8.6	14.0	10.6	12.3	9 4
10 to 14 years	1.8	2.7	2.3	4.8	2 0	3.3
15 years and over	1.6	1.8	2.3	2.1	1.9	1 9
Total	100.0	100.0	100 0	100.0	100.0	100 0

In sixty six instances more than one case appeared in the family, and in two instances three cases arose in the same family When more than one case occurred in the same house the interval between the times of onset was brief In twenty families the second case occurred the same day, in seven, within twenty four hours; in nine within forty eight hours, in six, within three days, and in eight families, within four days In two families in which three cases were reported the interval between the second and third cases was four and five days, respectively.

The milk supply showed that 20[illegible] used raw milk 533, pasteurized milk 442, [illegible] milk, and 148 families used no milk

No definite relationship could be established in the number of rooms occupied by families and the cases of poliomyelitis developing in these families

In view of the fact that from 50 to 60 per cent. of all the cases reported were treated in hospitals there must have been occasions when infection might have been spread from sick children to the well in the hospital wards, and yet not a single instance of this nature was reported during the period of the epidemic.

The history of the cases reported during the first week

in July did not appear to suggest any definite common origin of infection. Briefly the occurrence of these cases was as follows:

CASE 1. In the Tenth Ward, in the family of an express driver to Brooklyn. The baby was breast fed. There was no history of exposure.

CASE 2. In the Fourth Ward, eleven blocks from the first case. The physician and the milk and food supply were different. There was no history of exposure.

CASE 3. In the Tenth Ward, one and one half blocks from the first case, in the family of a junk dealer. There was no history of exposure.

CASE 4. In the Tenth Ward, four and one half blocks from the nearest case, in an Italian family. The patient was a nursing baby. There was no exposure.

CASE 5. In the Thirteenth Ward, 1¼ miles from the nearest case, in the family of an Italian, the driver of a milk wagon. There was no exposure.

TABLE 4.—CASE FATALITY (DEATHS IN EVERY HUNDRED CASES)

AGES	Cases	Deaths	Percentage
Under 4 months	22	8	36 4
4 months to 1 year	160	49	30 6
Under 1 year	182	57	31 3
1 year	315	93	29 5
2 years	294	82	27 9
3 years	220	45	20 5
4 years	129	33	25 6
Under 5 years	1,140	310	27 2
5 to 9 years	167	34	20 4
10 to 14 years	27	12	44 4
15 years and over	26	7	26 9
Total, all ages	1,360	363	26 7
Total males	788	222	28 2
Total females	572	141	24 7

CASE 6. In the Tenth Ward, in an Italian family. The patient was a breast fed baby, a cousin of the fourth patient. There was history of exposure.

CASE 7. In the Tenth Ward, four blocks from the nearest case in an American family. There was no exposure.

CASE 8. In the Tenth Ward, half a block from the nearest case in a Polish family. There was probable exposure.

CASE 9. In the Tenth Ward, two blocks from the nearest case. There was no evidence of exposure.

CASE 10. In the Tenth Ward, six and one half blocks from the nearest case, in an American family. There was no exposure.

CASE 11. In the Tenth Ward, two blocks from the nearest case, in an American family. There was no exposure.

CASE 12. In the Fourteenth Ward, a mile from the nearest case, in a Jewish family. There was no exposure.

CASE 13. In the Thirteenth Ward, in the family of a German, a chauffeur for the City Hospital ambulance. There was no exposure. The nearest case was at a distance of five blocks.

CASE 14. In the Tenth Ward, in an Italian family. The father of the patient was a street leaner. There was no exposure. The nearest case was half a block away.

DISTRIBUTION AND MORTALITY.

Males appeared to be more susceptible than females to poliomyelitis, the number being 788 males and 572 females. The type of disease in males would also appear to be severe, the case mortality for males being 28.3 per cent. of recorded cases as compared with a case mortality of 24.7 per cent. for females.

Of all the patients, 83.8 per cent. were under 5 years of age, and 85.4 per cent. of the deaths were at this age. Under the age of 5 years the greatest incidence was at the 1 year period, 23.2 per cent., as was also the percentage of mortality to all deaths, 25.6.

The case mortality for all ages was 26 7 per cent.; at 1 month of age the case mortality was 100 per cent.

Under 1 year, 31.3 per cent. of the cases were fatal, under 5 years, 27 2 per cent., and between 5 and 9 years, 20 4 per cent.

Between 20 and 24 years the disease appeared to manifest unusual virulence, a case mortality of 57.1 per cent. being recorded. Similarly, between 10 and 14 years the fatality was 44 4 per cent All the monthly age periods under 1 year showed the fatality to be also unusually high

The incidence rate in Newark, 3 3 per thousand population, was considerably higher than in New York City, 1 8, and in Hoboken and Jersey City, each of which had a rate of about 1 per thousand population.

CLINICAL TYPES AND DIAGNOSIS.

Of the clinical types of poliomyelitis, so exhaustively described by Wickman, Frauenthal and others, the spinal predominated. In this class of cases, few symptoms of gravity were present. The onset was usually of such mildness that the lameness resulting from paralyzed muscles or groups of muscles was frequently the only complaint by children to parents or guardians.

This frequently brought about stories of falls and minor accidents as the cause of the inability to use a limb The explanation by physicians of the true nature of the disease was frequently received with incredulity. At the beginning of the epidemic, during the third week many fatal cases of the medullary and pontine types were observed, with respiratory involvement Our experience in this line tended to confirm the observations of Wickman and Frauenthal that this type furnished by far the greater number of fatalities

The laryngeal distress and other throat symptoms at times brought about a diagnosis of diphtheria, further

observation showing it to be an infantile paralysis. The case mortality in the third week was 37.5 per cent. and indicated the presence of a virulent infection.

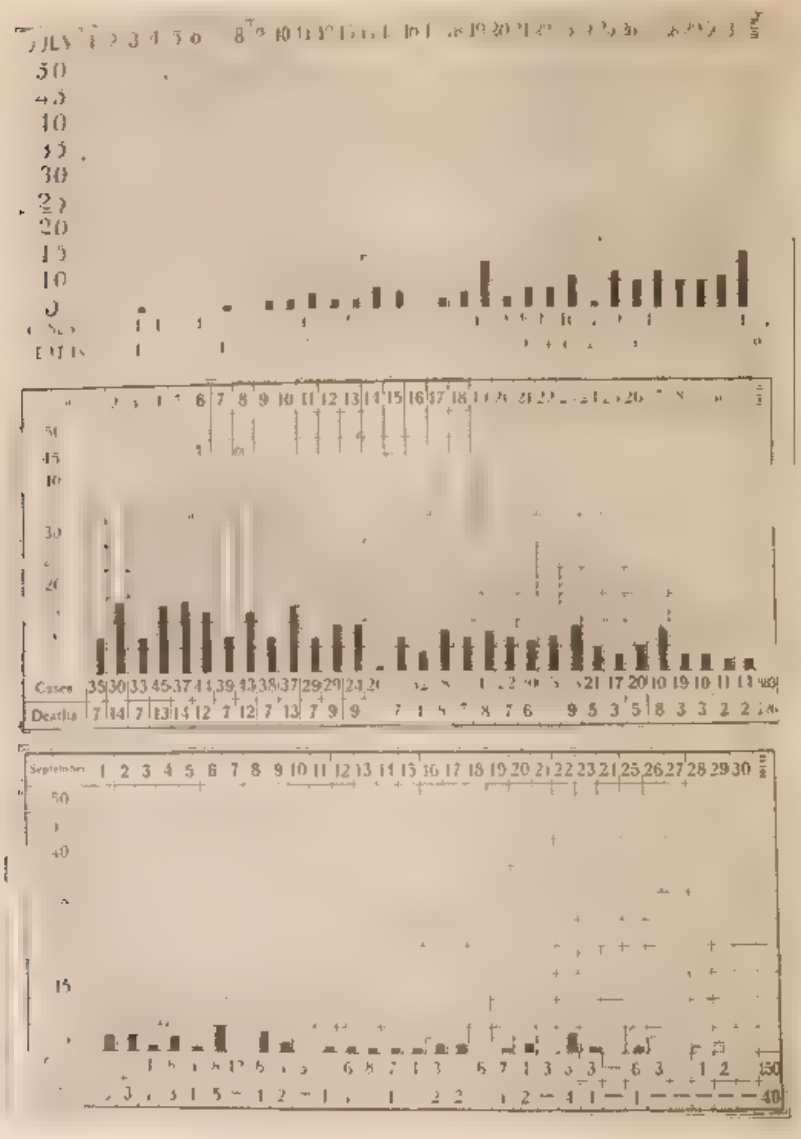

Fig. 3. Incidence and mortality, July, August and September.

Reports of sudden deaths of infants were frequent at this time. When subsequent necropsy was possible, a diagnosis of pneumonia frequently resulted. Gastro-intestinal symptoms, diarrhœa and colic did not attend the

initial symptoms. Constipation was present in the majority of cases, in this way confirming the observations of other investigators on the onset of the disease.

Of the meningeal types observed, some difficulties may have arisen in differential diagnosis from cerebro spinal fever. The rapid onset of paralysis, however, usually cleared up the diagnosis.

Patients who recovered from poliomyelitis with meningeal symptoms did not usually have any permanent paralysis, the reason for which is no doubt anatomic.

In the diagnosis of doubtful cases, the cardinal tests relied on were a positive Kernig's sign; stiff neck, spinal rigidity, as shown by inability to flex the spine by gentle pressure in the cervical and sacral regions, the body being held elevated at these points and spinal tenderness or even actual pain in attempting to rotate or bend the spinal column. Impaired reflexes were constant in nearly all situations. It was remarkable how frequently a cursory examination without the knowledge of the tests necessary for giving a correct judgment was made the basis of a negative report by physicians.

A careful examination made by one fully conversant with the knowledge that an attack of poliomyelitis leaves behind it lowered reflexes and lessened muscle tone seldom failed to demonstrate convincing signs of spinal tenderness or a paralysis of muscles previously overlooked.

PATHOLOGIC NOTES.

Dr Harrison Martland, the city pathologist, was enabled to carry out thirty necropsies in fatal cases of poliomyelitis.

The following are Dr. Martland's observations:

Gross Pathology of Poliomyelitis.—Usually the child is from 1 to 5 years of age, and well nourished, very few are emaciated. There is a peculiar pallor to the body.

Lesions Showing the Brunt of the Attack is on the Central Nervous System.—In the brain there is intense acute encephalitis,

the gray matter having a characteristic color ranging from a pinkish gray to a scarlet, copper, purplish hue. This color I have not seen in any other conditions with the possible exception of tetanus, rabies or some cases of acute traumatic encephalitis. It never occurs in most of the common meningitides. The color does not seem to be mentioned in the literature, although I know that several well known pathologists have observed it. I have been able to diagnose poliomyelitis cases from this color having substantiated it by other findings. The meninges are quite free and clear to the naked eye, and even in the meningitic type of case nothing is seen with the naked eye, although the section may show a considerable lymphocytic infiltration of the pia-arachnoid. I have seen internal hydrocephalus only once and then it was very moderate in extent.

The cord shows little from the meningeal surface except active hyperemia. The meninges of the cord in some cases are distinctly edematous. I have never seen the softening of the cord described by some observers. The superficial vessels are injected. On cut section through areas showing typical lesions a rather characteristic picture is seen. The gray matter of the cord shows as a distinctly prominent gray H. In this gray matter and usually in the anterior horns one or more bright red spots can be seen. These spots are not, however, always confined to the anterior horns, but may appear in the posterior horns particularly in Clark's column. There is sometimes a pinkish color to the white matter of the cord, especially in the anterior columns.

The medulla and pons show little but active hyperemia. Under the microscope there are extensive lymphocytic foci, perivascular and diffuse through the vital centers, with edema and chromatolysis in the neurons.

The nervous system bears the brunt of the attack. The patients always die of medullary involvement, with respiratory paralysis. The process is a diffuse interstitial inflammation of the central nervous system, which can be localized more severely in certain patches throughout the nervous system, thus giving rise to any symptom occurring in nervous diseases, similar in some respect to multiple sclerosis. For the present the name of Heine-Medin disease is perhaps preferable, as it is impracticable to give it any anatomic name.

Lesions Caused by Mode of Death.—As death occurs from respiratory paralysis in over 90 per cent. of cases and this is due to the inflammatory process involving the medulla and respiratory

centers, the following lesions as seen in cases of asphyxia are more or less present Lungs Pleural ecchymoses, parietal and visceral Acute interstitial emphysema, with blebs under the visceral pleura Heart: Right heart dilatation with dark blood Pericardial and sometimes endocardial ecchymoses.

Lesions Due to Bacterial Nature of Disease—Toxic.—Heart: Cloudy swelling. Liver: Cloudy swelling Kidneys: Cloudy swelling to a toxic and degenerative tubular nephritis.

Lesions Which Would Suggest Portals of Entry of Germ.—Intestines: Small, pinkish hyperplasia of Peyer's patches and solitary follicle with pinkish hyperplasia of mesenteric glands Colon: Follicular colitis with hyperplasia of solitary follicles Mucosa: Nasal and tonsils in cases examined were quite free and clear; also throat mucosa

COINCIDENT PARALYSIS IN DOMESTIC ANIMALS.

From the beginning, poliomyelitis was looked on as a contagious disease, much attention being paid to the paralysis occurring in domestic animals on the supposition that animals were responsible for the spread of the infection During July, August and September, 1916, cases of paralysis in animals were brought to the attention of the Board of Health

Considerable interest was aroused as to the possible relationship between such pathologic conditions among animals and the existence of poliomyelitis cases in children

Dr Harrison Martland investigated four of these paralysis cases and submitted the following conclusions as the result of his investigations on one horse, two dogs, and one cat.

ANIMAL 1 –Fox terrier dog had paralysis of the hind limbs extending to the fore legs, and died with convulsions Acute encephalitis was found The gray matter was pinkish There was active hyperemia of the cord with a suggestion of punctate red spots near the anterior horns Microscopic examination of the brain and cord revealed suggestive round cell infiltration in the

TABLE 5 WEEKLY WARD DISTRIBUTION OF POLIOMYELITIS CASES AND DEATHS

DATE	WARDS																Total Cases	Total Deaths	Case Mortality	Temperature Mean	Humidity Mean	Total Rainfall
			3	4	5	6	7	8	9	10	11	12	13	14	15	16						
July 8				1						9			2	1			13	2	15.4	73.6	64.1	0.16
July 11			5	1	6	2	2			17		4	3	9		7	56	18	32.1	74.6	68.6	0.89
July 22	1	2	1	4	13		3		2	9			4	3		3	64	24	37.5	75.0	77.6	0.44
July 29	1	15	32	2	25	1	5	2	2	14		8	11	12	3	8	141	36	25.5	75.3	76.4	2.37
August 5	4	3	46	6	27			2	13	12	4	33	15	17	4	31	233	72	30.9	77.1	56.7	Trace
August 12	6	11	52	3	12	12	25	2	13	16	4	18	19	37	4	24	259	67	25.9	76.0	69.3	0.24
August 19	7	6	36	2	6	6	16	2	39	4	6	20	31	26	6	21	230	44	19.1	75.6	78	1.47
August 26	3	2	9		6	8	11	4	10	4	2	10	2	30	10	7	130	42	28.4	77.0	54.6	Trace
September 2	5	2	7	2	1	8	4	5	12	2	1	9	15	9	4	3	89	24	27.0	70.7	58.8	0.03
September 9	2	1	2		3	3	9	4	3	1	3	1	5	5	4	6	4	16	35.6	71.7	69.7	0.37
September 16	3	5	3	1	1	1	1	5	1		2	3	6	2	5	1	38	7	18.4	67.7	58.7	1.79
September 23	2		1			1		8	1		1	2	4	3	1	1	30	10	33.3	60.8	59.7	1.12
September 30	1			1				2	2				1	2	2	1	12	1	8.3	60.9	59.1	0.38
Total cases	45	45	268	28	102	50	80	36	87	88	23	115	146	156	43	113	1360	363	26.7			
Total deaths	18	11	49	5	31	15	24	11	21	33	3	28	36	42	14	22						
Case mortality	40.0	24.4	24.1	17.9	30.4	30.0	30.0	30.6	24.1	37.5	13.0	24.3	24.7	26.9	32.6	19.5						

cord but no typical lesions of human poliomyelitis Examination of the lungs revealed bronchopneumonia There was cloudy swelling in the heart muscles, kidneys and liver, and acute splenitis

Three fox terrier puppies inoculated in the subdural space with emulsion of this dog's brain and cord in 50 per cent glycerin gave negative results Several attempts were also made to inoculate dogs by an intracranial route with emulsion of brain and cord from human poliomyelitis patients but with negative results in all cases

ANIMAL 2 Small fox terrier puppy had supposed well marked paralysis of the hind limbs. Moderate encephalitis was found. The cord showed a few red spots in the gray matter near the anterior horns. Microscopic examination revealed an active hyperemia in the lower cord with diffuse lymphocytosis. Later examination of the cord from normal dogs revealed a considerable number of small round cells, and as the lesion in this case was not at all perivascular, it may be assumed that the numerous small round cells are not abnormal. The main pathologic condition did not indicate poliomyelitis. The cause of death appeared to be a distinct encephalitis with hemorrhage in and near the anterior horns of lower cord

ANIMAL 3 Cat had respiratory difficulty, and paralysis of the hind limbs. A diphtheritic membrane in the larynx was found, covering the vocal cords. Smears revealed the presence of bacilli resembling the Klebs-Loeffler bacillus with cultures negative The brain and the cord were negative for poliomyelitis.

ANIMAL 4.—Horse with symptoms of hindleg paralysis was shot Thrombosis of the mesenteric veins, and acute nephritis were found The brain and the cord were normal

COMMENT.

There is a considerable and variable number of diseases in domestic animals presenting clinical symptoms of paralysis of sudden onset resembling human poliomyelitis Gross and microscopic anatomic examination have failed, however, to reveal any resemblance to the lesions found in human or experimental monkey paralysis.

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DATE	WARDS																Total Cases	Total Deaths	Case Mortality	Temperature Mean	Humidity Mean	Total Rainfall
		2	3	4	5		7	8	9	10	11	12	13	14	15	16						
July 8				1						9			2	1			13	2	15 4	63 6	64 1	0 16
July 15			5	1	6	2	2			17		4	3	9		7	56	18	32 1	74 6	68 0	89
July 22	1	2	11	4	15		3		2	9		7	4	3		3	64	24	37 5	7	77 6	1 44
July 29	1	15	62	2	25	1	5	2	9	14		8	1	12	3	8	141	30	21 3	75 3	76 4	2 31
August 5	4	3	46	6	27	1	1	2	13	12	4	33	15	15	4	31	235	72	30	77 1	56 7	Trace
August 12	6	14	57	5	13	3	3	2	13	16	4	18	1	37	4	24	259	67	25 9	76 0	65 5	0 24
August 19	17	6	8	2	4	9	18	5	22	4	6	20	31	26	6	21	236	44	19 1	71 6	78	47
August 26	3	2	9	3	6	5	11	4	16	4	2	10	5	5	10	7	106	42	39	77 5	81 6	Trace
September 2	5	2	7	2	1	5	4	3	9	2	1	5	15	3	4	5	85	24	27 0	70 7	58 5	03
September 9	2	1	9		3	3	2	4	3	1	3	1	7	3	4	6	45	16	35 6	71 7	69 7	0 37
September 16	3	3	3	1	1	1	1	5	1		2	3	6	2	5	1	38	7	18 4	67 7	80 7	1 79
September 23	2		1			1		8	1		1	2	9	3	1	1	31	10	32 3	60 8	59 7	1 11
September 30	1			1				2	8				1	2	2	1	17	1	5 3	68 9	59 1	0 38
Total cases	45	45	263	28	105	30	84	36	87	88	23	115	146	56	43	113	369	363	26 7			
Total deaths	18	11	49	5	32	5	24	11	21	33	3	28	36	42	14	22						
Case mortality	40 0	24 4	24 1	17 9	30 4	30 0	30 0	30 6	24 1	37 5	13 0	24 3	24 7	76 9	32 6	19 5						

cord but no typical lesions of human poliomyelitis Examination of the lungs revealed bronchopneumonia There was cloudy swelling in the heart muscles, kidneys and liver, and acute splenitis.

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COMMENT.

There is a considerable and variable number of diseases in domestic animals presenting clinical symptoms of paralysis of sudden onset resembling human poliomyelitis Gross and microscopic anatomic examination have failed, however, to reveal any resemblance to the lesions found in human or experimental monkey paralysis

Paralytic diseases in the lower animals appear not to be at all uncommon, and their recorded prevalence during epidemic times is due to the increased attention paid to such conditions in man.

There is no reason to suppose that the lower animals play any part in the spread of human poliomyelitis, and it is extremely doubtful if poliomyelitis exists among them.

SUMMARY.

There is every reason to suppose that the infection of poliomyelitis was carried from the original focus in Brooklyn to Newark in July, 1916.

The first case occurring in the family of an express driver who went daily to Brooklyn suggests an adult means of infection.

Proximity to New York and Brooklyn undoubtedly was the factor in the undue prevalence of poliomyelitis in Newark. Direct exposure to previous patients was known in seventy nine instances among 1,360 cases.

No nationality or condition of social life was exempt from infection.

Two cases in one family were reported sixty-six times.

Infection by food was not suggested, nor could any sanitary condition other than that existing in congested areas be shown to have any bearing on disease incidence.

No definite focus of disease was traced to schools.

There was no case of contact infection in hospitals.

The endemic type of poliomyelitis has a case mortality of 4 per cent., and an epidemic case mortality of 26.3 per cent.

Seasonable prevalence is highest in August, associated with a high mean temperature and a low mean humidity and rainfall

Cases of poliomyelitis in Newark appear to have begun from multiple foci and not from a single focus of infection from which the whole community was attacked.

Small areas of incidence indicate the spread of infection from one exceptionally virulent case.

Of all those attacked, 83 8 per cent were under 5 years of age.

Of all those who died, 85.4 per cent. were under this age.

Males were more susceptible to the disease than females

Spinal types of the disease predominated, and many mild cases were observed suggesting a much wider prevalence of these in epidemic times.

Respiratory fatal cases may be mistaken for diphtheria or croup

At necropsy a characteristic color of the gray matter was observed ranging from pinkish gray to scarlet.

No softening of cord as mentioned by other observers was encountered.

The nervous system bears the brunt of the attack death being due to respiratory paralysis in 9 / per cent of al. fatal cases

Lesions found in the intestine suggest a portal of entry of infecting organisms.

The nasal and tonsillar mucosae were found normal.

Paralyzed domestic animals found during the epidemic did not show at necropsy any pathologic lesions resembling human or monkey poliomyelitis.

There is no reason to suppose that the lower animals play any part in the spread of poliomyelitis, and it is extremely doubtful if poliomyelitis exists among them

CONCLUSIONS

Epidemic poliomyelitis appears to be a disease carried directly from place to place by some human carrier not yet possible of identification

Infection by direct contact, although possible, is not probably the commonest way of infection.

The predisposing causes of the disease seem to be age (under 5 years) and season (high temperature and low rainfall).

Dr C V. Craster, M D , D P H , Health Officer

DEAR S[illegible] Following is the financial report of the Board of Health for year 1916

WM J BUEHLER,
Bookkeeper

FINANCIAL REPORT FOR THE YEAR 1916

RECEIPTS

	Tax Appropriation	Ambulance Permits	[Antitoxin] Sales	Bacteriological Examinations	[Chicken] Permits	Chicken Slaughter House Permits	[Ice] Licenses	Milk Licenses	Milk Penalties	Plumbing Permits	Vaccine Sales	Sundries	Totals
[illegible]	$192,948 20												$192,948 20
Sanitary Division		$44 20			$[illegible]	$[illegible]	$[illegible]					$218 0[illegible]	[illegible]
Food and Drug Division								$[illegible]	$[illegible] 110 00			[illegible]	[illegible]
Plumbing Division										$[illegible]			44 00
Laboratories Division			$[illegible]	$451 00									[illegible]
Dispensary											$196.30		[illegible]
Sanatorium												65 50	[illegible]
Court Fines												209 [illegible]	209 [illegible]
Totals	$192,948 20	$44 20	$[illegible]	$451 00	$[illegible]	$[illegible]	$[illegible]	$[illegible]	$[illegible]	$[illegible]	$196 30	$[illegible]	$[illegible]

DISBURSEMENTS

	Salaries	Heat, Light, Power, Water, Telephone	Furniture and Fixtures	Improvements and Repairs	Printed Matter, Stationery and Postage	[illegible]	Janitors Supplies	Stable Expenses	Drugs and Surgical Supplies	Food Supplies	Beds and Bedding	Dry Goods	Laundry [illegible]	Tables and Kitchen Ware	Pension Fund	Miscellaneous	Totals
Administrative	$[illegible]	$[illegible]	$[illegible]	$[illegible]	$[illegible] 1 06	$[illegible]	$[illegible]								$2 [illegible]	$ 296 [illegible]	$[illegible]
Sanitary Division	[illegible]				647 [illegible]	[illegible]										668.	3 [illegible]
Contagious Disease Division	[illegible] 16				[illegible] 34											* 5,176. [illegible]	[illegible]
Disinfecting Division	[illegible]				[illegible] 58											787	[illegible] 73
Dispensary	57[illegible]		54 0[illegible]	363 96	[illegible]				$9 [illegible]							179.	[illegible]
Laboratories	[illegible]		[illegible]	35 55	[illegible]			$ [illegible]								[illegible],674 5	[illegible]
Tuberculosis Division	[illegible]					45										388.5[illegible]	[illegible]
Food and Drug Division	[illegible]				[illegible]	[illegible]										664.	[illegible] 63
Plumbing Division	[illegible]				[illegible]												[illegible]
Child Hygiene Division	[illegible] 48		425 [illegible]		[illegible]	[illegible]										816. [illegible]	[illegible] 95
Tuberculosis Sanatorium	[illegible]	3 [illegible]	[illegible]	[illegible]	[illegible]		57 [illegible]	365 [illegible]	1 [illegible]	$[illegible] 12 55	$[illegible]	[illegible]	[illegible]	$[illegible]		221 [illegible]	[illegible]
[illegible] Doctors	4 [illegible]																[illegible]
Parochial School Doctors	[illegible] 36																[illegible] 36
Pensions	3 [illegible] 97																[illegible]
Totals	$[illegible] 108 64	$6 446 87	$[illegible] 24	$[illegible]	$8 849 69	$ [illegible]	$279 46	$[illegible]	$[illegible] 75	$[illegible]	$[illegible]	$357 91	$[illegible] 40	$[illegible]	$2,500.00	$10,721 61	$206,[illegible]

* Infantile Paralysis epidemic

ANNUAL REPORT

OF THE

SANITARY DIVISION

ANNUAL REPORT

OF THE

SANITARY DIVISION

Dr. Charles V. Craster, Health Officer:

DEAR SIR:—I submit herewith the report of the work done by the Sanitary Inspectors of this Division during the year ending December 31, 1916.

The inspections made by the uniformed inspectors (covering the 18 districts in the city) numbered 82,970, of which 77,342 were original inspections, 5,318 of complaints received in this office and 310 special inspections.

Nuisances found	20,339
Re inspections made	15,674
Written notices served	5,609
Verbal notices served	6,762
Special notices served	1,738
Total notices served	14,109
Notices served for inspectors assigned to other districts	832
Cases sent to the Law Department for violations of the Sanitary Code	420
Abatements of nuisances	8,837
Yards inspected	32,684
Yards found unsanitary	3,196
Areaways inspected	5,566
Areaways found unsanitary	1,141
Cellars inspected	22,063
Cellars found unsanitary	4,261
Refuse and ash accumulations found	3,756
Garbage accumulations found	1,981
Surface drainages found	165

Scavenger dumping grounds inspected	441
Sewer drains inspected	19
Privy vaults inspected	386
Privy vaults which needed cleaning	89
Cesspools inspected	145
Cesspools which needed cleaning	32
Stables inspected (including cow stables)	2,621
Manure pits and bins found uncovered	506
Manure accumulations found	735
Inspections for chicken licenses	3,685
Inspections for milk licenses	2,346
Inspections for ice licenses	597
Inspections of butcher shops	875
Inspections of bakeries	783
Inspections of barber shops	650
Inspections of soda fountains	407
Inspections of saloons, stores and lunch rooms	3,039
Inspections for rummage sales	17
Inspection of chicken slaughter houses	1,193
Chicken slaughter houses found unsanitary	29
Inspections of parochial and public schools	448
Inspections of factories	509
Inspections of housing and social conditions	11,814
Pits of water closets found defective	175
Water closets not supplied with water	682
Buildings not supplied with water	250
Buildings with defective roof	353
Buildings with defective storm gutters and leaders	957
Buildings with defective plumbing	990
Buildings with defective water supply pipes	492
Tenement houses inspected	6,507
Visits to owners and agents of real estate	1,988
Vacant lots found unsanitary	473
Houses placarded during measles and infantile paralysis epidemics	1,548
Contagious disease cards removed during the epidemics	484
Federal cards investigated	674
Complaints sent to Combustible Department	24
Pretzel vendors' baskets inspected	26
Boarding house licenses issued	43
Clinic cases investigated	364
Swat-the-fly posters delivered	150
Dead animals reported to contractor	1,859
Dead animals removed from Morris Canal	35

WARD SURVEYS.

During the months of March and April fourteen inspectors were detailed in the Third Ward on survey work, and there were 1,647 written and verbal notices served The total number of abatements of nuisances were 2,465 Number of tenement houses inspected was 1,656, and there were 2,137 rooms found ventilated by way of airshafts There were 425 windowless rooms and 454 other dark rooms found Twenty-four cellar rooms unfit for human habitation (for living and sleeping purposes) were found. Houses unfit for habitation, 3.

During the month of May fourteen inspectors were detailed in the First Ward on survey work, and there were 7,889 inspections made, the number of nuisances found being 711 They served 290 written and verbal notices, the total number of abatements for nuisances being 380 Number of tenement houses inspected was 357, of which there were 327 rooms that were ventilated by way of airshafts, 97 windowless rooms, 18 other dark rooms and 6 cellars unfit for human habitation for living or sleeping purposes

POLIOMYELITIS WORK.

Seven Sanitary Inspectors and six uniformed police officers from Police Headquarters were detailed on the clean up in the Tenth Ward during the Infantile Paralysis epidemic for twelve days in the month of July, and there were 500 written notices and 200 verbal notices served upon owners and tenants of dwellings, to provide garbage receptacles for the refuse from their premises, to clean the cellars and yards and to keep the premises in sanitary condition The police officers were also detailed during the epidemic at the various theatre and motion picture houses, to prevent children under sixteen years of age entering the same There were also six hundred investigations made by the police officers of Federal cards mailed to the Health Officer.

During the Infantile Paralysis epidemic the employees of the Recreation Department volunteered their services to the Board of Health, through the Superintendent, Mr Brown, and were detailed at the various railroad stations throughout the city and on trolley cars, to prevent children under sixteen years of age travelling on same without having a physician's certificate.

Four Sanitary Inspectors were detailed to the Disinfecting Corps during the epidemic in July and August

Three Sanitary Inspectors were detailed to do duty in the Health Office during the month of August, from 4 to 10 P. M., to issue health certificates to children under sixteen years of age who were leaving the city and to take the reports of physicians of cases of Infantile Paralysis

During the months of July and August employees of this Division worked on Saturday afternoons and Sundays issuing these health certificates, of which it is estimated about ten thousand were issued

SPECIAL INSPECTION WORK

Twelve Sanitary Inspectors were detailed in the Fourth Fifth and Tenth Wards during the months of November and December on special inspection work for the purpose of having a record filed in this office of every building in the said wards and to serve written notices upon the owners, agents or lessees of such properties where violations of the Sanitary Code were existing

During the month of December two inspectors were detailed on special work investigating housing conditions where colored immigrants from the South had located These conditions were deplorable, particularly because of overcrowding, lack of clothing and bedding, and limited knowledge of sanitation

Three Sanitary Inspectors were detailed on smallpox quarantine at No 279 N J R R Avenue to do guard duty.

One inspector was detailed in the Centre Market during the months of October, November and December, to report all violations of the Sanitary Code and the conditions of Commerce, Mulberry and South Canal Streets.

The following is a list of the work done by the two inspectors detailed during the month of December to make special inspections for chicken and milk licenses to be issued.

Special inspections made for chicken licenses	798
Written notices served for chicken licenses	320
Abatements from written notices	309
Re-inspections made	221
Total number of inspections and re-inspections made	1,019
Special inspections made for milk licenses	141
Verbal notices served for milk licenses	61
Total number of abatements	61
Total number of re-inspections made	95
Total number of inspections and re-inspections made	236

The Sanitary Inspectors make monthly reports of the collection by the Scavenger contractor of ashes and garbage in their various districts, a copy of which is submitted to the Board of Street and Water Commissioners

Respectfully submitted,

WILLIAM H. YOUNG,
Clerk, Sanitary Division

REPORT OF THE PLUMBING STAFF.

Charles V. Craster, M. D., D. P. H., Health Officer:

DEAR SIR. In tendering a report of the activities of the Plumbing Inspectors I believe that the work performed cannot be shown to the best advantage in a tabulated, statistical summary.

The work of the division is carried on by six uniformed inspectors. Since the death of Chief Inspector Sullivan, the division has one man less than the previous year.

The duties have increased during the past year, especially through the inspection of house sewer installations, the investigation of all plumbing complaints and the serving of notices and the follow up work covering such complaints. Previously this work had been performed by the Sanitary Inspectors.

The work of the inspectors is becoming more educational and advisory year by year. Owners, architects and contracting plumbers especially call at all times for information and advice, which is promptly and cheerfully given. Architects and plumbers as a whole co-operate with the inspectors, which tends to give owners of property better value in workmanship and materials and greater confidence in the Plumbing Division.

Rapid strides have been made in the quality of sanitary plumbing installed in the buildings of our city, but there is room for further improvement. When the New Plumbing Code is adopted and in effect better results will follow

During the past year the explosion of a kitchen range boiler drew the attention of the authorities to a danger that was not suspected, but which is absolutely avoidable. Some careless or ignorant person had installed a check valve on the cold water supply pipe to this boiler, which prevented the escape of the steam as it generated when the boiler became overheated. An enormous pressure was attained which the boiler could not withstand and the explosion resulted. Without a check valve, the pressure is relieved by the steam passing back through the house supply pipe into the street main.

The Plumbing Inspectors through their training being the most fitted to understand the construction and installation of range and hot water supply boilers, have been instructed to inspect all such work and have already found a number of check valves, which have been removed and the danger of similar explosions averted. A section will be inserted in the New Code to more fully regulate the installation of this class of work

The problem of sewage disposal for the factories which have been erected on the meadows during the past two years has been successfully solved by the treating of the sewage through septic tanks. This district does not have a sewage system, and the building of cesspools was impractical from the fact that water is encountered two feet below the surface of the ground.

The septic tank, which is a covered water-tight oblong pit built in the ground, receives the raw sewage from the buildings. The construction of the inlet and outlet pipes is such that the flow of sewage through the tank is sluggish, permitting the bacteria, which live and multiply very rapidly in sewage under such favorable conditions, to destroy the organic and animal solids, leaving the liquid effluent to discharge through the outlet pipe to a creek and thence into the river. Although this effluent is not absolutely purified, there is no perceptible odor given off. Twelve

septic tanks are in operation, and all are working satisfactorily.

With the completion of the Passaic Valley Sewer our city will be greatly benefited in having a river beautiful and an up-to-date sewage disposal system. A visit to the pumping station by the Plumbing Inspectors disclosed some very interesting facts. A very good arrangement of sand pits and screen for the separation of the larger solids is provided. The sewage will then pass through large centrifugal pumps to a series of settling tanks, thence through the syphon into New York Bay. This is perhaps the largest disposal system in the country.

The unusual number of recent deaths from gas poisoning attracted the attention of the Safety Committee, and at a meeting held in the City Hall the conclusion was reached that defective hose connections to gas stoves and heaters were to a great extent responsible. It was decided to introduce an ordinance in the Common Council regulating such connections. The several departments, including the Health Department, will enforce the ordinance, and this division will add such work to its duties.

A comparison of the work of 1916 with the previous year will show about the same volume. While we did not have as many new buildings erected, a larger amount of new plumbing was installed in old buildings, where in many instances it was needed very much. The tabulated report is as follows.

Plans approved	1,872
Plans rejected	117
Water tests made	1,302
Smoke tests made	458
Plumbing inspections	4,800
Final inspections made	709
Sewer permits granted	411
Cesspool permits granted	2
Privy vault permits granted	1
Relay sewer permits granted	148

Violations served	68
Violations complied with	23
Hours on examining board	87
Hours in court	59½
Suit cases instituted	13
Penalties for violations	2
Cases discontinued	4
Sewer inspections	662
Special inspections	138
Septic tanks installed and operating	12

Respectfully submitted,

C. A. HALLGRING,
Plumbing Inspector.

REPORT OF SPECIAL DETAILED INSPECTORS

Dr. Charles V. Craster, Health Officer:

DEAR SIR — The following visits were made to the watersheds Cedar Grove and Belleville Reservoirs, to collect samples of our city water supply for bacteriological and chemical examinations. Samples of water were also obtained in the Board of Health Office and other points in the city as well as from private wells in and out of the city for examination.

Number of visits to the watersheds	27
Number of visits to Cedar Grove Reservoir	26
Number of visits to Belleville Reservoir	25

SAMPLES OF CITY WATER SUPPLY TAKEN AT THE FOLLOWING PLACES FOR BACTERIOLOGICAL AND CHEMICAL ANALYSIS

	Bact.	Chemical
Oak Ridge Stream	24	12
Clinton Stream	24	12
Kanouse Stream	24	12
Echo Lake Stream	24	12
Macopin Intake	24	12
Cedar Grove Reservoir Inlet Gatehouse	24	12
Cedar Grove Reservoir Outlet Gatehouse	24	12
Belleville Reservoir Inlet Gatehouse	24	
Belleville Reservoir Outlet Gatehouse	24	
Board of Health Office	24	
Prudential Insurance Building	19	

SAMPLES OF WATER TAKEN FROM PRIVATE WELLS

	Bact.	Chemical
452 Broad Street—driven well	2	1
41 Dickerson Street—driven well	4	1
786 Frelinghuysen Avenue	2	1
56 and 58 Arlington Street	2	1
101 Smith Street	1	1
534 Passaic Avenue	1	1
51 Madison Street	1	1
111 N. J. Railroad Avenue	2	1

OUT-OF-CITY SAMPLES OF WELL WATER

Newtonville, N. J.—dug well	1	
Charlottesburg, N. J.—dug well	1	
Overbrook, N. J.—driven well	2	
Total	382	92

Number of inspections made in watersheds	34
Number of official calls in watersheds	26

On all trips to and from the watersheds the toilet rooms in the Susquehanna Railroad cars were found closed

Number of special inspections made	756
Number of inspections made with other inspectors	39
Number of inspections made with Health Officer	43
Number of inspections made with members of the Board	6
Number of investigations made outside of city	117
Lodging houses	95
Poultry slaughter houses	257
Bird stores	27
Dance halls	112
Motion picture theatres	81
Public baths	1
Open air amusement parks	24
Total	1,558

Dispensary cases investigated	1,315
Second calls	65
Hospitals visited	37
Official calls on health matters	885

Houses placarded for measles	46
Days in Health Office	43
Days on special work	6
Hours in court	19
Days at watersheds	58
Samples of ice for bacterial analysis	8

RE-INSPECTIONS

Special	1
Lodging houses	32
Poultry slaughter houses	74
Bird stores	3
Dance halls	88
Motion picture theatres	48
Open air amusement parks	15
Total	366

Number of poultry slaughter houses public	12
Number of poultry slaughter houses—private	22
Number of licensed dance halls	9
Number of licensed motion picture theatres	52
Number of licensed open air amusement parks	14
Number of licensed public lodging houses	1

Respectfully submitted,

ANDREW J. BRADY,
BERNARD J. CAHILL,
Detailed Inspectors.

REPORT OF DETAILED INSPECTOR TO HEALTH OFFICER FOR THE YEAR 1916.

This detail is chiefly concerned with complaints regarding dog bites, mainly for the purpose of keeping close watch on the occurrence of rabies among animals. There has been a marked decrease in the number of dog bites for the year 1916, there being 432 persons bitten as compared with 566 for the year 1915.

I have had the use of a motorcycle during the past year, which has been of great assistance, and has made it possible to also carry out numerous other investigations and inspections of every description and character, such as the following list will illustrate.

A record in detail of each case and its subsequent history is kept on file at the Laboratory.

DETAILED REPORT OF INVESTIGATIONS OF SUSPECTED RABID DOGS

Persons bitten by dogs	426
Persons bitten by cats	3
Persons bitten by horses and other animals	3
Total number of persons bitten and cases investigated	432
Original inspections	710
Re-inspections (dogs under observation)	360
Final inspections (dogs under observation)	330
Total number of inspections made	1,400
Cases reported by the Police Department and investigated	84
Dogs bitten	82
Cats bitten	8
Dogs sent to pound	148
Dogs destroyed	143
Cats sent to pound	8
Cats destroyed	8
Dogs' brains examined	17
Kennels inspected	94
Complaints investigated (dogs) (vicious barking and causing nuisances, etc.)	237

Daily visits were made to the City Hospital Laboratory for complaints.

GLANDERS

Number of cases investigated and stables disinfected	8

SPECIAL WORK PERFORMED

Special inspections made	1[illegible]
Sanitary complaints investigated and inspections made	13[illegible]
Written notices served (sanitary violations)	1[illegible]7
Re inspections made (sanitary)	37
Written notices served (for other inspectors)	[illegible]8
Dispensary cases investigated	[illegible]41
Physicians supplied with contagious disease cards	44
Houses placarded for contagious diseases	2[illegible]
House placards removed	[illegible]1
Investigations of cases reported by health officers of persons entering city from other States	37
Stores visited for milk licenses	51
Food and drug complaints "Specials"	1
Special inspections made for chicken licenses	479
Written notices served for chicken licenses	22[illegible]
Re inspections made for chicken licenses	135
Cases turned in for suit (violations)	3
Chicken licenses issued	189
Special investigations (cases of poliomyelitis quarantined)	2
Inspections on hibernation of flies, with representative of New Jersey State Agricultural Research Department	48
[illegible] investigations (specimens and material taken for microscopical examination)	1

MISCELLANEOUS

Official calls to City Hall, communications delivered to Commissioners, calls made in reference to health matters, dogs inoculated, and special work performed for Health Officer	44
Total number of inspections made (all sorts)	3,324

Respectfully submitted,

CHARLES F. CONRAD.

REPORT OF THE DIVISION OF FOOD AND DRUGS

Dr. Charles V. Craster, Health Officer, Newark Board of Health, Newark, N. J.:

DEAR SIR — Herewith I beg to submit the report of the Division of Food and Drugs for the year 1916:

Number of Bacteria samples taken		2,300
Number of Bacteria samples counted	2,288	
Number of Bacteria samples containing Streptococci and Pus (routine)	41	
Number of Special Samples taken at dairies direct from infected cows		429
Number of Special Samples taken containing Streptococci and Pus	74	
Total number milk samples taken		2,729

Where a bacterial sample is taken by the inspector and upon examination by the bacteriologist found to contain streptococci and pus, a report is at once forwarded to the office and the Veterinarian without delay is sent to the dairy where the milk is produced. All cows are examined and samples of milk taken from infected udders, one sample being taken from the infected quarter teat and one from mixed milk of the remaining teats.

If streptococci and pus are found only in the infected teat the cow is ordered segregated from the herd and to be so milked that no milk is obtained from the diseased quarter. If streptococci and pus are present in the mixed milk as above described the cow is ordered forthwith from the herd.

Of the bacterial samples examined, the results were as follows:

LESS THAN THE MAXIMUM BACTERIA ALLOWED

GRADE	
Certified of 10,000 per C. C.	18
A Raw of 100,000 per C. C.	259
A Past. of 30,000 per C. C.	118
B Past. of 50,000 per C. C.	914

(Of these 35 were Sterile Plates)

ABOVE THE AMOUNT ALLOWED

GRADE	
Certified of 10,000 per C. C.	0
A Raw of 100,000 per C. C.	205
A Past. of 30,000 per C. C.	26
B Past. of 50,000 per C. C.	748

The average count per month for the year was:

18 samples Grade Certified	1,499
464 samples Grade A Raw	1,124,647
144 samples Grade A Past	21,038
1,662 samples Grade B Past	3,914,541
2,288 samples Average count per sample	22,088

The six Pasteurizing plants in the city and three in the suburbs are constantly visited and samples of the raw milk before Pasteurization are taken as well as samples after being heated, samples after cooling and again after the milk is bottled. When we find the count has increased after heating or cooling, it indicates in most cases that the cooler is at fault. When this is found to be the cause, the proprietor is informed and further samples are taken. We find this a very educational procedure and one which teaches the necessity of care in Pasteurizing.

During July and August 875 quarts of milk from 44 dealers were prohibited from sale on account of high bacterial counts and high temperatures. 384 quarts were

also returned to the creamery over the railroad for a similar cause.

One dealer was prohibited from selling milk on account of diseased animals in herd.

Five dealers were prohibited from bottling their own milk.

Samples of butter taken for supposed oleomargarine, 7. Other samples taken, including olive oil, soft drinks, cider, drugs, 45. Of these, 21 were sent to chemist.

CHEMICAL EXAMINATION OF MILK

Number of chemical samples taken	1,227
Number of preliminary samples taken (of which 115 were sediment samples)	242
Total samples taken	1,469
Number samples below standard	97
Number when penalty was paid	60
Number turned in for suit and still pending	9
Number samples void on account of evidence (unable to collect) and where analysis showed only a fraction below the standard	17
Number samples where fines were remitted by Food Drug Committee	9
Number samples held for parties to appear before Committee	2
Amount of money collected for milk penalties	$940
Amount of money collected for selling milk without a license (paid in Court)	$50
Amount of money collected for samples in 1915, paid in 1916	$90
One fine "collected" in 1915 (paid in 1916)	$10
Receipts	$1,090
Number milk cases turned in for suit	18
Number cases tried in Court	2

One dairy was compelled to Pasteurize on account of several cases of Scarlet Fever in family

One dairy was prohibited from selling milk for two days until case of Scarlet Fever was removed

Five dairies were compelled to Pasteurize on account of Poliomyelitis.

Seven dealers were temporarily compelled to Pasteurize on account of failing to have cows properly tuberculin tested and for unsanitary conditions of dairies. Three are still having milk Pasteurized.

New dairies scored	106
Dairies reinspected and rescored	496
Pasteurizing plants inspected and rescored	13
Visits to railroad receiving station (mostly during milk strike)	40
Bottling plants inspected	134
Recommendations sent to farmers pertaining to our milk supply	388
Food and drug samples taken with State Inspector	83
Inspections for food and drug exposures	131

(The greater part of these were mostly reinspections on account of cases turned in for suit.)

Complaints investigated	246
Complaints verified	182
Notices served	394
Cases turned in for suit	154

(Food exposures, 123, decomposed food, 3; soda water, 2; bob veal, 2; oleomargarine, 3; other violations, 3; milk, 18.)

During the year there were 132 milk dealers who were compelled to appear before the Food and Drug Committee for violations, 39 dairymen and 5 creamerymen

Notices served on places where

Candy is manufactured	2
Cheese is manufactured	4
Ice Cream is manufactured	3
Soda is manufactured	1
Cocoa is manufactured	1
Ketchup, olive oil and mustard is manufactured	2

PHYSICAL EXAMINATION OF THE COWS PRODUCING GRADE "A" RAW MILK.

Previous to granting a milk license for the year 1916, it was decided by the Board that only a temporary permit be granted to milk dealers until the requirements of the Ordinance were complied with. This would appear to

have been of great benefit for clean milk, the result being that dealers were clamoring for an inspection, not desiring the temporary plates tacked on their wagons for the reason that it caused too many inquiries.

The Milk Ordinance of the City requires the Tuberculin Testing of all cows used for Raw Milk production, and at the same time the cow must be tagged with the official tag adopted by the Board. On our routine inspections of dairy farms, it was found that in many cases the tags were not put on the animals until several weeks after tests were made, and descriptions were found not to tally with the records received from the Veterinarians.

In some cases cows were described on charts which on inspection were found to be bulls. Tags were found upon cows which were in Canada at the time the herd was supposed to have been tested in New York.

In the early part of January, 1916, Dr. Shaw, Veterinarian from the State Board of Health, with Dr. Runge, Veterinarian of this Board started to check up and physically examine the cows on dairy premises. The conditions found were certainly amazing.

Of the 58 dairies visited in the two months, there were 32 positive tuberculin reacting cows still in herds being milked, which had been tested several months previously.

Of the 2,007 cows examined, 92 cows were suspected of having Tuberculosis on physical examination, 23 had Tuberculous udders, 17 had abscesses in udders, 4 cows were being milked while suffering from Septic Metritis; 291 had no ear tags for identification, 1029 had tags adopted by Board of Health; of those 703 were correctly tagged and 266 so incorrectly tagged that description of the cows did not tally with the number on the last tag. Among 28 cows slaughtered, taken from dairies in two months' inspection, 10 cows were so infected with tuberculosis as to be condemned as unfit for food.

On a subsequent test of the above mentioned cows, there were 163 reactors to the tuberculin test.

Among 650 cows, 291 were found with no tags, and 266 had wrong tags and 93 suspected of being tuberculous, and when subsequently retested with Tuberculin it was found that 102 reacted positively, or 15.2 per cent.

The tuberculin charts furnished the Board of Health from 95 dairies during 1910 represented 3,200 cows listed, showed 254 positive reactors on first test and 165 on the retest as ordered.

The physical examination of cows was discontinued from March until October through lack of appropriation, when a Veterinarian was temporarily appointed to examine the dairy cows and inspect beef at the slaughter houses

116 dairies were reinspected, 89 samples of milk were taken from infected teats and 11 showed Streptococci and Pus

BOTTLED MILK.

SYNOPSIS ON NEW PASTEURIZATION PLANTS.

During September it was decided to strictly enforce bottled milk in Newark This was delayed for over a year on account of the erection of two of the largest and best pasteurizing plants in the State. This combined two of the largest wholesale dealers into one firm, and four other dealers into another. Where the milk was previously pasteurized in eighteen different places in New York, Pennsylvania and this State, it is now pasteurized in the two new places in this city.

By the enforcement of the Ordinance requiring all bottled milk in the city, two new pasteurizing plants were built in Irvington, one a batch pasteurizer and the other a bottle pasteurizer This brought about the pasteurizing of the milk from fifteen of our poorest country dairies, where previously it was sold as Grade "A" Raw.

RESTAURANTS' KITCHENS.

During the year of 1916 our restaurants were again inspected and scored and a decided improvement was recorded over the previous year.

Number of restaurants scored	216
Number of new places scored	10
Number of reinspections made	516
Number scoring over the 70% required for approval card	88
Number scoring below the 70% required for approval card	122
Number of notices served on restaurants	122
Total number of restaurants scored	210
Number purchasing approval cards	30
Receipts for approval cards	$150 00
Restaurants compelled to close up	3

BAKERIES

During the year this Division started an investigation of bakeries, especially the cellar bakeries. The latter were found in most cases to be unfit for the production of sanitary bread and pastry, lacking in natural light, fly screens and adequate space to enable such to be thoroughly cleaned.

There was little or no provision for toilet accommodation no places for washing purposes and no protection for bread and pastry from contamination.

Bakeries gone out of business	4
Recommendations to bakeries by this Department complied with	25
Bakeries where most of the recommendations complied with	52
Total places visited	96

APPROVAL OF STREET VENDORS' LICENSES.

At the request of the Board, the City License Department agreed to grant no licenses to street vendors unless their methods of handling food were first approved by the Food and Drug Division One hundred and ninety peddlers

brought their wagons or push carts to the office, where they were instructed in what was required to protect food products from contamination. This, we believe, will lead to an educational propaganda for more sanitary methods among our street vendors of foodstuffs.

Respectfully,

SAMUEL S. SHARWELL,
Chief Food and Drug Inspector.

REPORT OF THE MEAT INSPECTOR

Dr. C. V. Craster, Health Officer.

DEAR SIR: I herewith submit my report for the year ending December 31, 1916.

DAILY VISITS

Centre Markets	437
Wholesale beef houses	1,516
Butcher shops	1,679
Commission houses	6,958
Fish markets and stands	1,173
Poultry markets and stands	1,309
Bologna kitchens	271
City slaughter houses inspected with Dr. Wittpenn	14
Total number of visits during year	13,357

MEAT INSPECTED

Beef	16,502
Lambs and sheep	73,453
Calves	9834
Hogs	10146
Total	109835

Respectfully submitted,

DANIEL KUHN,
Meat Inspector

REPORT OF VETERINARIAN—1916

During the year regular visits to the different slaughter houses were made and a number of complaints of cases of communicable disease in animals were reported and investigated.

There are at the present time seven slaughter houses in the city of Newark three of which have government inspection

The following is a summary of the work performed by the Veterinarian during the year:

Cattle inspected	14773
Calves inspected	14,160
Sheep inspected	31,818
Hogs inspected	28,454
Carcasses of beef condemned	48
Carcasses of calves condemned	14
Carcasses of sheep condemned	3
Carcasses of hogs condemned	0

The results of the investigations of the reported cases of communicable diseases were as follows:

Glanders in horses, 7 cases

In every case the animals were killed and the stables, harness and other utensils, and the blacksmith shops where these animals had been shod were thoroughly cleansed and disinfected under the direction of Inspector Conrad

Respectfully submitted,

WERNER RUNGE,
Veterinarian.

ANNUAL
REPORT OF THE CHEMIST
NEWARK BOARD OF HEALTH

ANNUAL REPORT OF THE CHEMIST

To Dr. C. J. Craster, Health Officer:

DEAR SIR: I herewith submit my annual report for the year ending December 31, 1916.

The tabulated portion of this report is upon the same lines as last year, with the extended milk, and most of the water tables omitted.

The analytical work on milk is summarized as follows:

MILK

Sealed samples analyzed	227
Unsealed samples analyzed	243
Sediment tests made	1[illegible]
Samples below State standard of 11.50% of total solids	114

AVERAGE COMPOSITION

	Total Solids	Fat
Samples above standard	12.23	3.63
Samples below standard	10.85	2.99
All samples	12.12	3.58

Comparing these data with those of last year, we find that although there were more samples analyzed, there were not so many below the standard. The average per cent. of fat is slightly greater and the per cent of total solids less than last year.

An interesting series of milk examinations were made in connection with the "Baby Week" celebration in June

For five consecutive days samples from about twenty of our representative milk dealers, who entered into the plan on a sort of competitive basis, were secured and examined chemically and bacteriologically in the usual way. An attempt was made to combine the results with the dairy score of each dealer and deduce ratings which would show the comparative value of the milk for infant feeding

A 100% rating was made up of a perfect dairy score, as determined by the dairy score card in use, 25, a perfect bacterial score, 50, and a perfect chemical score, 25. The bacterial score, devised by Dr Connolly, under whose direction the bacterial work was done, was based on the bacterial count, the presence of streptococci, pus, etc The chemical score was based on the percentage of fat, solids not fat and freedom from visible dirt in the sedimentation test, as follows Fat, 4 40% or more, 10, solids not fat, 9.1% or more, 10; no sediment, 5; total, 25.

The results as a whole indicated that the dealers were supplying good milk, but it is not thought that the examinations were extensive enough to make sufficiently accurate or fair comparisons for publication On the contrary, they served to emphasize the fluctuation in the daily quality of the milk and the tendency toward a bacterially cleaner milk but a lower fat and solids content as compared with a few years ago.

In the three grades examined the highest ratings on the above described system were as follows: Certified, 92 95%, Grade A Pasteurized, 87 65%, Grade A Raw, 90 17% Some of the anomalies were One sample of Certified milk and several of those of the other grades were below the legal standard in the total solids content In Grade A Raw milk one dealer had an average of 100,000 bacteria per C C on four days and over 3,000,000 on the fifth Another had an average of only 10,000 for the five days In the case of two highly reputable dealers selling Grade A Pasteurized milk, one had an average of 3,000 per C C.

for five days and the other over 300,000 for three days and about 30,000 for two days.

In addition to the routine analyses of milk and water there were a number of miscellaneous examinations made during the year. These included Butter two of which were Oleomargarine), Olive Oil, Candy, Orange Drink, a Foot Liniment, Baked Apples, etc.

One of the Olive Oil samples was of special interest. It was found to be Cottonseed Oil put up in a genuine (or good imitation) Olive Oil can. Of cans of the same brand, marked the same way and purchased at different stores, some were genuine and others Cottonseed. The matter was brought to the attention of the United States authorities, who, according to the press, obtained a conviction with a heavy fine and jail sentence.

In addition to the laboratory work there were several attendances in court and inspections made of industrial establishments, usually in relation to poisonous or obnoxious fumes.

CITY WATER.

The usual monthly analyses of samples of the City water supply taken from various points in the system were made, but only the data on the samples from Oak Ridge and Clinton Reservoirs, Laboratory faucet and averages of the monthly results from each sampling point are tabulated as being fairly representative of the entire system.

ANALYSES OF NEWARK AQUEDUCT WATER.

Samples from Oak Ridge Stream, before junction with Clinton Stream, at New Foundland

PARTS PER MILLION.

1915	Temperature, F.	Turbidity	Color	NITROGEN AS				Chlorine	Temporary Hardness (Alkalinity)	Total Solids	Loss on Ignition	Fixed Solids
				Free Ammonia	Albuminoid Ammonia	Nitrites	Nitrates					
Jan. [illegible]	[illegible]	[illegible]	[illegible]	.030	.104	0	.075	2.0	23	56	24	32
Feb. 24	35	0.0	35	.018	.076	0	.110	2.0	29	57	23	34
Mar. 2	36	0.0	45	.016	.104	0	.075	2.0	21	64	26	38
Apr. 12	1	0.0	35	.016	.080	0	.070	2.0	18	58	22	36
May 10	51	0.5	30	.012	.074	0	.100	2.0	22	54	21	33
June 6	67	0.5	30	.028	.098	0	.100	2.5	24	52	22	30
July 1	58	0.5	35	.014	.092	0	.100	2.5	24	66	38	28
Aug. 9	76	0.5	30	.018	.110	0	.050	2.0	26	61	27	34
Sept. 7	68	0.5	35	.014	.124	0	.075	2.5	28	72	32	40
Oct. 17	55	0.5	35	.016	.098	0	.060	3.0	33	70	33	37
Nov. 15	42	1.0	40	.056	.104	0	.075	2.0	25	61	23	38
Dec. 12	37	0.5	30	.030	.118	0	.075	3.0	22	67	39	28

ANALYSES OF NEWARK AQUEDUCT WATER.

Samples from Clinton Stream, before junction with Oak Ridge Stream, at New Foundland

PARTS PER MILLION.

1916	Temperature, Fahr	Turbidity	Color	NITROGEN AS Free Ammonia	Albuminoid Ammonia	Nitrites	Nitrates	Chlorine	Temporary Hardness (Alkalinity)	Total Solids	Loss on Ignition	Fixed Solids
Jan. 12	34	1.0	35	.010	.094	0	.075	2.0	11	38	10	28
Feb. 24	35	0.0	35	.012	.092	0	.070	2.0	16	40	11	29
Mar. 30	40	0.5	35	.024	.080	0	.075	2.0	9	38	16	22
Apr. 13	50	0.5	30	.022	.078	0	.060	2.0	9	34	17	17
May 11	59	0.5	25	.036	.040	0	.075	1.5	13	50	14	36
June 6	68	0.5	20	.022	.080	0	.075	2.5	10	54	24	30
July 11	80	0.0	10	.008	.086	0	.100	3.0	14	50	15	35
Aug. 8	76	0.5	25	.014	.092	0	.050	2.5	13	35	8	27
Sept. 6	60	0.0	20	.020	.062	0	.100	2.5	23	44	20	24
Oct. 14	50	1.0	30	.020	.088	0	.060	2.5	9	33	16	17
Nov. 9	47	0.5	15	.044	.096	0	.075	3.5	35	68	19	49
Dec. 12	39	0.5	15	.048	.110	0	.050	3.0	28	66	22	44

ANALYSES OF NEWARK AQUEDUCT WATER

Samples from Laboratory Faucet 927 Broad Street

PARTS PER MILLION.

1916	Temperature, Fahr	Turbidity	Color	NITROGEN AS Free Ammonia	Albuminoid Ammonia	Nitrites	Nitrates	Chlorine	Temporary Hardness (Alkalinity)	Total Solids	Loss on Ignition	Fixed Solids
Jan. 12	38	0.5	50	.012	.092	0	.100	2.5	19	52	20	32
Feb 24	36	0.0	35	.020	.086	0	.100	2.0	19	49	18	31
Mar 29	39	0.5	35	.016	.084	0	.075	2.0	15	44	20	24
Apr. 12	46	0.5	30	.016	.086	0	.060	2.0	14	51	18	33
May 10	57	0.5	30	.014	.084	0	.080	2.0	18	47	20	27
June 6	63	0.5	40	.022	.106	0	.070	2.0	19	50	17	33
July 11	71	0.5	30	.020	.092	0	.080	2.5	20	50	17	33
Aug. 9	75	0.5	30	.008	.092	0	.080	2.5	22	48	15	33
Sept. 7	71	0.5	35	.008	.092	0	.080	2.5	26	54	18	36
Oct. 17	59	0.5	25	.018	.086	0	.060	3.0	24	51	19	32
Nov. 15	52	0.5	25	.030	.100	0	.060	2.5	24	57	23	34
Dec. 12	39	0.5	30	.022	.092	0	.060	3.0	20	61	23	38

ANALYSES OF NEWARK AQUEDUCT WATER.

Averages of Monthly Examinations—1916.

PARTS PER MILLION.

SOURCE OF SAMPLE	Temperature Fahr	Turbidity	Color	NITROGEN AS				Chlorine	Temporary Hardness Alkalinity	Total Solids	Loss on Ignition	Fixed Solids
				Free Ammonia	Albuminoid Ammonia	Nitrites	Nitrates					
Oak Ridge Stream	47.83	0.50	35.83	.0203	0.085	0	0804	2.375	24.58	61.50	27.50	34.00
Clinton Stream	48.50	0.56	25.40	.0133	0831	0	.0720	2.410	15.83	45.83	16.00	29.83
Kanouse Brook	47.41	0.75	44.16	.0143	0918	0	0816	2.620	17.75	49.33	22.50	26.83
Echo Lake Stream	48.58	0.50	31.58	.0213	1284	0	1125	2.580	19.50	53.75	23.25	34.50
Macopin Intake	48.91	0.50	39.58	.0203	0868	0	.0850	2.500	19.75	54.00	20.58	33.42
Cedar Grove Intake	51.00	0.54	31.25	.0217	0915	0	0846	2.458	18.25	52.33	21.33	31.00
Cedar Grove Outlet	52.50	0.46	28.75	.0210	0921	0	0762	2.500	19.16	50.00	19.91	30.09
Belleville Reservoir	52.33	0.46	33.33	.0176	.0930	0	0750	2.541	20.08	51.75	21.33	30.42
Laboratory Faucet	53.83	0.46	32.91	.0170	0910	0	0754	2.375	20.00	51.16	19.00	32.16

TABLE OF MAXIMUM, MINIMUM AND AVERAGE TOTAL SOLIDS IN THE WATER FROM THE LABORATORY FAUCET FROM 1900 TO DATE.

(Total Solids, Grains per U. S. Gallon.)

YEAR	Maximum	Minimum	Average
1900	2.06	1.96	2.53
1901	3.00	1.93	2.68
1902	2.92	1.98	2.45
1903	2.92	1.69	2.32
1904	2.92	2.04	2.52
1905	2.92	1.60	2.33
1906	3.24	2.44	2.71
1907	3.09	2.35	2.60
1908	2.92	2.22	2.60
1909	3.37	2.23	2.78
1910	3.50	2.16	2.81
1911	3.91	2.63	3.06
1912	3.32	1.92	2.94
1913	3.91	2.16	3.04
1914	3.49	2.27	2.88
1915	3.90	1.92	2.91
1916	3.55	2.56	2.98

Respectfully submitted,

HERBERT B. BALDWIN,
Chemist.

ANNUAL REPORT

OF THE

Division of Contagious Diseases

FOR THE YEAR 1916

To C. V. Craster, M. D., D. P. H., Health Officer:

DEAR SIR I beg to submit the following report of the Contagious Disease Division:

TUBERCULOSIS REPORTED BY WARDS—1916.

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
January	9	21	32	12	21	16	17	6	11	18	11	21	9	21	5	17	247
February	19	9	22	1	17	7	17	7	13	11	6	15	22	11	8	15	209
March	26	13	31	18	13	15	17	9	14	17	9	11	23	24	14	5	259
April	24	15	46	11	24	14	23	15	13	10	5	14	12	26	12	13	277
May	20	13	38	9	11	7	35	4	13	14	2	15	21	16	8	10	236
June	25	11	27	8	12	15	20	7	15	10	13	9	19	31	5	6	233
July	16	10	11	2	9	5	10	5	6	10	5	11	17	9	6	7	145
August	17	11	21	10	10	7	9	5	5	12	4	4	15	23	11	6	168
September	6	5	16	5	7	3	16	3	3	8	5	4	9	14	6	5	115
October	27	10	20	7	5	6	13	6	8	14	1	7	12	23	8	5	175
November	30	1	23	7	10	7	11	16	14	23	8	4	13	22	6	7	206
December	7	11	13	7	7	11	17	5	9	13	3	7	5	26	8	0	119
Totals	216	47	306	96	146	113	305	88	127	160	72	125	177	244	97	96	2419

WHOOPING COUGH REPORTED BY WARDS 1916.

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
January	3	3	8	0	3	17	2	3	11	4	8	2	4	5	2	8	83
February	1	2	7	0	2	0	2	16	2	1	0	2	2	8	0	4	49
March	5	4	10	0	3	2	5	4	7	4	7	6	9	7	5	2	80
April	3	6	6	1	2	1	8	5	6	3	7	4	9	13	1	9	82
May	5	1	15	1	1	3	13	2	5	2	2	3	4	11	5	16	97
June	2	1	9	1	1	2	1	3	1	4	6	4	9	5	2	10	68
July	5	0	3	3	1	9	8	11	4	2	1	3	4	6	2	5	70
August	1	5	4	3	3	3	18	2	9	3	5	2	13	7	3	13	108
September	3	1	9	1	1	2	3	0	5	2	1	3	4	9	2	4	50
October	6	6	10	0	2	2	7	2	0	4	4	1	5	9	0	3	53
November	2	0	4	1	3	2	1	1	1	1	3	7	4	5	2	5	42
December	4	0	6	0	1	2	5	0	1	7	1	3	3	4	2	3	42
Totals	52	29	99	11	25	47	80	47	50	37	45	37	75	89	26	84	824

REPORTED BY WARDS.

Diseases	Wards	Total	Previous Year
Typhoid Fever	[illegible]	[illegible]	[illegible]
Diphtheria	[illegible]	[illegible]	[illegible]
Scarlet Fever	[illegible]	[illegible]	[illegible]
Pneumonia	[illegible]	[illegible]	[illegible]
[illegible] Fever	[illegible]	57?	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible] Meningitis	[illegible]	[illegible]	[illegible]
Infantile Paralysis	[illegible]	[illegible]	[illegible]
Whooping Cough	[illegible]	[illegible]	[illegible]
Measles	[illegible]	[illegible]	[illegible]
Chickenpox	[illegible]	[illegible]	[illegible]
Mumps	[illegible]	48?	[illegible]
Mental Deficiency	[illegible]	[illegible]	73?
[illegible]	[illegible]	1	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Ophthalmia Neonatorum	[illegible]	17	27?
Erysipelas	[illegible]	38?	[illegible]
Epilepsy	[illegible]	37?	[illegible]
Malaria	[illegible]	46?	[illegible]
Puerperal Fever			
Puerperal Septicaemia			
Tetanus	[illegible]	6	[illegible]
Trichinosis	[illegible]	2	0
Anthrax	[illegible]	1	0
Leprosy	[illegible]	1	[illegible]
Industrial Diseases			
Lead Poisoning	[illegible]	[illegible]	[illegible]
Mercurial Poisoning	[illegible]	1	
Compressed Air Illness			1
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

MEASLES REPORTED BY WARDS 1916.

MONTH				4	5	6	7	8	9	10	11	12	13	14	15	16	Total
[illegible]	[illegible]	[illegible]	[illegible]	17	54	11	24	27	61	100	12	35	40	68	10	41	704
[illegible]	[illegible]	[illegible]	[illegible]	52	39	44	44	117	181	32	11	83	94	100	20	62	1077
March	[illegible]	[illegible]	[illegible]	53	30	145	114	340	171	35	47	42	320	237	127	160	2439
April	[illegible]	[illegible]	[illegible]	61	43	159	77	199	80	28	75	33	400	298	168	200	2584
May	[illegible]	[illegible]	[illegible]	26	[illegible]	[illegible]	68	48	24	[illegible]	77	13	118	123	31	42	1040
June	[illegible]	[illegible]	[illegible]	9	1	9	31	10	16	1	40	8	76	29	14	58	395
July	[illegible]	[illegible]	[illegible]	13	1	7	13	10	20	6	3	4	40	26	9	20	248
August	[illegible]	[illegible]	[illegible]	0	1	1	[illegible]	[illegible]	[illegible]	[illegible]	0	1	5	9	3	1	35
September	[illegible]	[illegible]	[illegible]	2	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	1	0	1	0	1	10
October	[illegible]	[illegible]	[illegible]	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0	0	1	0	0	14
November	[illegible]	[illegible]	[illegible]	0	[illegible]	1	0	1	1	3	0	0	2	1	0	2	14
December	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	0	1	[illegible]	[illegible]	[illegible]	4	13
Total	[illegible]	[illegible]	[illegible]	319	190	417	371	756	769	222	265	[illegible]	1097	894	382	593	8583

MUMPS REPORTED BY WARDS 1916.

MONTH	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	1	0	6	0	4	5	3	18	1	4	0	6	13	5	12	1	79
[illegible]	0	2	5	5	4	1	6	14	2	4	2	16	11	3	8	4	87
March	2	5	6	3	3	2	3	9	7	4	4	4	38	5	17	5	117
April	5	2	6	1	4	1	7	13	6	7	7	5	33	4	22	13	136
May	2	1	2	0	6	6	1	5	3	11	8	3	23	5	4	6	86
June	0	0	1	0	4	3	0	3	2	2	4	3	19	2	0	15	58
July	0	1	0	0	2	2	0	5	5	2	4	6	11	0	0	6	44
August	0	1	0	0	0	0	0	1	0	2	1	0	2	0	0	1	8
September	0	0	1	0	0	1	0	0	1	1	0	0	0	0	0	2	6
October	0	0	1	0	1	0	0	0	0	1	0	0	1	1	0	0	5
November	1	1	1	0	0	0	0	0	1	2	0	1	2	1	0	0	10
December	1	0	1	0	0	0	1	0	1	1	1	0	0	3	0	3	12
Totals	12	13	30	9	28	21	21	68	29	41	31	44	153	29	63	56	648

SCARLET FEVER REPORTED BY WARDS—191[illegible].

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	[illegible]	[illegible]
January	7	0	19	3	1	1	1	4	1	7	6	0	10	13	6	18	97
February	3	5	25	0	0	4	3	6	6	0	0	3	8	9	1	[illegible]	[illegible]
March	6	3	40	2	6	4	4	9	5	3	3	6	9	22	1	6	120
[illegible]	5	10	31	3	9	8	2	12	6	4	5	5	10	31	3	15	[illegible]
May	6	3	10	2	5	12	1	10	8	2	1	6	25	17	4	24	[illegible]
[illegible]	3	2	15	1	6	8	3	8	5	4	4	3	23	16	2	10	[illegible]
[illegible]	2	3	11	0	3	4	2	9	5	2	2	4	5	4	1	3	61
[illegible]	1	1	1	0	1	0	0	3	5	0	0	0	2	5	1	1	21
[illegible]	1	0	2	0	1	0	0	2	1	0	0	0	1	2	2	1	[illegible]
[illegible]	1	1	1	0	0	0	1	3	4	2	4	1	1	0	0	1	[illegible]
November	1	0	2	0	0	2	0	2	4	1	2	1	4	1	1	2	[illegible]
December	3	0	5	0	0	1	1	4	2	0	1	4	2	2	0	1	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

DIPHTHERIA REPORTED BY WARDS 1916.

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
January	10	7	16	9	5	3	5	4	7	4	4	7	15	16	3	9	[illegible]
February	3	3	7	2	6	4	2	7	5	7	3	11	1[illegible]	6	0	9	[illegible]
March	7	2	11	1	3	0	6	5	9	5	2	7	8	1	2	7	[illegible]
April	7	4	10	2	2	0	8	12	4	8	4	2	14	8	1	10	[illegible]
May	8	4	6	5	10	3	4	5	7	8	6	4	11	10	3	5	[illegible]
June	9	1	5	2	4	1	3	7	4	5	3	5	7	10	4	1	71
July	0	2	4	1	2	5	5	9	2	3	1	0	11	4	4	8	61
August	7	1	3	2	0	1	1	2	4	0	4	0	9	4	1	8	47
September	1	1	1	1	2	3	0	1	2	2	0	4	6	3	1	1	29
October	9	1	6	1	6	2	0	1	4	2	3	3	8	6	1	4	57
November	6	3	2	2	1	6	3	4	8	8	4	7	14	9	4	21	102
December	11	2	9	4	0	3	0	4	4	2	4	6	11	2	6	8	77
Totals	78	31	80	32	41	31	37	61	60	54	38	56	124	79	30	91	[illegible]

TYPHOID FEVER REPORTED BY WARDS 1916.

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
January			1	0	1	0	0	0	2	0	0	0	0	0	0	0	5
February				0	0	0	0	0	0	0	0	0	0	0	0	0	0
March	1			0	2	0	0	1	1	1	0	1	1	0	0	0	7
April	1			0	1	0	0	0	0	1	0	0	1	0	0	0	4
May			1	0	1	0	1	0	0	0	0	0	1	0	0	2	6
June			1	0	2	0	0	1	3	1	0	0	3	1	0	0	11
July		1		0	1	0	0	0	1	2	0	0	0	0	0	1	5
August	1	1	1	0	1	1	1	0	2	1	0	2	0	0	1	0	18
September				1	3	2	2	1	1	1	1	0	0	1	0	3	27
October				0	0	3	0	2	0	3	0	3	0	1	1	4	22
November		1	1	0	1	2	1	1	1	1	0	0	0	1	0	0	12
December	1	1		0	0	2	0	0	0	0	0	0	0	1	1	2	8
Totals				1	12	10	5	6	11	11	1	6	6	5	3	12	126

SCARLET FEVER, DIPHTHERIA AND TYPHOID FEVER SINCE 1895.

YEAR	DIPHTHERIA CASES	SCARLET FEVER CASES	TYPHOID FEVER CASES
1895	1,321	623	149
1896	1,261	537	106
1897	969	1,358	103
1898	1,019	478	179
1899	1,170	607	515
1900	1,417	708	320
1901	1,154	643	316
1902	985	557	259
1903	1 150	779	306
1904	1,653	1 649	210
1905	1,614	1,309	228
1906	1 273	616	336
1907	1,039	773	330
1908	806	1,500	181
1909	1,393	1,786	210
1910	1,585	1,664	178
1911	1,339	1,027	200
1912	1 098	698	193
1913	1,594	1,036	217
1914	1,490	1,696	250
1915	1,210	618	108
1916	923	885	126

CHICKENPOX REPORTED BY WARDS 1916.

MONTH	1	2	3	4	5	6	7	8									
January	5	1	9	1	7	6	0	15	35	7	6	1					
February	11	2	12	3	8	2	2	9	23	6	9						
March	14	4	7	1	20	6	2	1	13	9	25	5					
April	14	6	15	1	5	8	2	2	8	16	18	3	10				
May	13	6	20	0	14	6	1	5	12	18	8	11	18				
[illegible]	0	0	1	0	4	3	0	3	2	2	4	3	19				
[illegible]	6	2	8	0	6	0	4	6	0	2	0	4	10				
[illegible]	2	2	1	0	2	0	0	0	1	0	3	5	1				
September	1	0	2	0	1	0	0	0	2	0	0	0	3				
October	2	3	0	0	0	2	0	3	0	4	1	1	4	5	2	0	
November	5	1	11	1	10	3	8	10	4	4	6	5	13	14	7	13	1
[illegible]																	
Totals	107	40	110	8	94	52	19	75	104	92	91	62	121	138	114	173	

PURULENT OPHTHALMIA

There were 17 cases of [illegible] reported in the city during 1916

1913	[illegible] cases
1914	38 cases
1915	27 cases
1916	17 cases

EPIDEMIC MENINGITIS.

During the year 37 cases of epidemic meningitis were reported. The following table shows the occurrence and the high mortality of the disease since 1906

[illegible]	CASES	DEATHS
1906	11	[illegible]
1907	[illegible]	[illegible]
[illegible]	[illegible]	38
1908	[illegible]	1
1909	[illegible]	[illegible]
1910	[illegible]	[illegible]
1911	7	1
1912	7	5
[illegible]	17	8
[illegible]	10	[illegible]
1913	17	14
1916	37	22

INFANTILE PARALYSIS REPORTED BY WARDS 1916

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Tots
January				0		0		0	0	0	0	0	0	0	0	0	0
February								0	0	0	0	0	0	0	0	0	0
March						0		0	0	1	0	0	0	1	0	0	2
April								0	0	0	0	0	0	0	0	0	2
May								0	0	0	0	0	0	0	0	0	0
June								0	0	0	0	0	1	0	0	0	2
July								5	4	61	2	27	23	26	3	20	330
August								13	70	31	16	76	96	111	25	82	886
September								22	12	2	7	8	26	13	14	10	160
October								7	6	0	2	0	5	2	2	1	30
November								0	0	0	0	7	0	0	1	0	9
December								0	0	0	0	0	0	0	0	0	1
Totals								47	92	95	27	118	151	153	45	113	1422

YEAR	CASES
1911	7
1912	33
1913	10
1914	24
1915	9
1916	1422

ERYSIPELAS REPORTED BY WARDS 1916

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
January	1	1	4			2	3	1	3		0	4	3	5	1	2	37
February	2	2	3	2	3	0	2	0	0	3	0	1	3	4	5	2	27
March		1		0	1	0	0	0	2	2		0	0	2	1	0	4
April	0	3	3	3	2	1	1	2	5	2	2	2	2	3	0	4	42
May		2	2	2	5	2	0	1			5	1	3	2	1	3	33
June	0	1		1		1	0	0		0		0	4	2	2	1	17
July	2			3	0	0	1	0		2	0	1	2	3	1	0	16
August	1	2	0		1	1	0	1		0	2		0	2	0	0	3
September	0	1	2	2	1	1		2	1	0		1	1	2	0	1	9
October		0		1	0		0		0	0	1	2	0	1		0	8
November		2	2	2	0	2			0	0	0		1	1	0	1	12
December		3	4	2	0		2	0	0	1	3	2	2	1		4	3
Totals	8	19	31	19	17	7	8	5	12	15	10	16	21	28	11	2	238

PNEUMONIA.

Lobar and Bronchopneumonia Pneumonia are now reportable diseases, the following charts showing the ward and month distribution for 1916:

LOBAR PNEUMONIA REPORTED BY WARDS 1916

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
[illegible]	[illegible]	14	12	8	11	11	12	5	10	19	7	17	21	10	8	18	[illegible]
[illegible]	[illegible]	10	15	7	11	9	9	7	10	17	10	17	15	12	12	14	[illegible]
[illegible]	[illegible]	5	19	7	16	8	6	13	5	20	8	16	20	22	8	5	[illegible]
[illegible]		6	16	7	13	5	9	15	7	19	5	15	12	20	5	9	[illegible]
[illegible]	[illegible]	9	8	2	8	7	4	7	6	17	4	11	7	17	4	9	141
[illegible]	[illegible]	7	6	1	5	4	7	3	2	15	4	6	6	4	3	4	[illegible]
[illegible]	[illegible]	0	2	1	0	3	0	3	0	5	2	7	2	7	2	4	41
August		1	2	3	3	1	1	1	0	3	2	0	6	3	0	2	[illegible]
September		2	2	2	2	2	2	2	3	4	0	5	1	2	0	0	
October		1	9	2	3	1	1	4	1	10	2	3	3	5	8	2	[illegible]
November	[illegible]	5	6	4	7	5	5	7	2	18	10	5	5	12	6	1	[illegible]
December		30	25	19	19	10	11	9	12	24	13	17	10	18	12	16	
Totals	[illegible]	90	122	63	98	66	67	76	58	171	57	119	108	132	68	84	[illegible]

BRONCHOPNEUMONIA REPORTED BY WARDS 1916

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
January	23	7	10	3	15	7	15	14	4	20	3	19	8	18	2	8	[illegible]
February	35	7	19	4	11	8	6	3	11	28	1	23	8	10	7	4	[illegible]
March	21	2	21	6	6	2	10	14	6	9	3	16	11	20	2		[illegible]
April	30	4	9	2	6	4	6	9	3	8	1	10	6	15	6	[illegible]	[illegible]
May	28	0	7	1	6	1	1	5	3	4	1	4	4	6	10	[illegible]	[illegible]
June	13	0	2	0	9	0	1	2	1	5	1	5	2	8	1	3	[illegible]
July	11	0	4	0	7	1	1	3	0	4	2	2	3	1	2	1	4
August	6	1	2	0	5	3	2	1	0	1	0	2	3	6	1	2	3
September	5	0	0	0	3	0	4	0	1	2	0	1	0	1	1	0	[illegible]
October	3	0	1	0	6	2	1	2	1	1	2	6	3	1	2	[illegible]	32
November	11	2	2	1	3	2	1	0	2	5	0	4	2	3	2	4	[illegible]
December	18	11	7	6	4	2	3	7	5	10	3	9	8	5	5	3	10
Totals	204	34	84	23	81	32	51	60	37	97	17	101	58	94	41	[illegible]	[illegible]

MENTAL DEFICIENCY AND EPILEPSY.

Under the State Laws Chapter 182, Laws of 1912, physicians are required to report all cases of epilepsy and mental lebecency coming to their notice. The following table gives the number reported for four years:

DISEASE	1913	1914	1915	1916
Epilepsy	42	62	32	57
Mental deficiency	109	61	79	73

TRACHOMA.

During the year thirty cases of Trachoma were reported, the ward distribution being as follows:

Wards	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cases	10	0	4	0	1	2	1	0	1	2	0	3	2	1	2	1

INDUSTRIAL AND MISCELLANEOUS DISEASES.

The city again had 46 cases of malaria, as compared with 57 for 1915. Other diseases during the year included two cases of trichinosis, one of anthrax, six of tetanus, one of smallpox, and one of leprosy. The industrial diseases reported were lead poisoning, 34, mercury poisoning, 4, and compressed air illness, 1.

Respectfully,

JOHN J. GREENE,
Clerk

REPORT OF DISINFECTING STAFF

Dr. Charles V. Craster, Health Officer:

DEAR SIR: I herewith submit the report of the Disinfecting Staff for the year 1916.

The report indicates the routine work done in connection with communicable diseases.

Divisional Staff: The work is carried on by one Chief Inspector and seven divisional inspectors.

During the epidemic of infantile paralysis in 1916 this force was increased by seven additional temporary inspectors and four visiting nurses.

Visiting of all cases of contagious disease has been the rule, and attention is called to the large number of visits made in connection with this work.

The interest shown by the Visiting Nurses during the time employed by the Board and the instructions given by them in the care of patients with infantile paralysis were of great value and good results were constantly obtained.

The ordinance requiring placarding for measles and infantile paralysis added largely to the work of the staff.

Pneumonia. During the months of November and December histories of all cases of pneumonia were taken and special attention given to information about cases occurring amongst colored people.

Chicken Pox. All cases of Chicken Pox were recorded during the month of December and information obtained as to whether vaccination had been successfully accomplished. This precautionary measure was taken because a case of smallpox had occurred early in this month.

The following is a detailed account of the work done in the past year, as compared with the previous year:

HOUSES QUARANTINED

	1915	1916
Diphtheria, including Membranous Croup (placarded)	1,203	923
Scarlet Fever (placarded)	608	885
Measles (placarded)	0*	8,583
Infantile Paralysis (placarded)	9	1,422
Small Pox (placarded)	0	1
Cerebro Spinal Meningitis (placarded)	16	37
Typhoid Fever (not placarded)	97	126
Whooping Cough (banded)	611	824
Total number of cases	2,544	12,801

*Measles not placarded in 1915

DISINFECTION

	1915	1916
Diphtheria, including Membranous Croup	1,145	852
Scarlet Fever	565	816
Tuberculosis	750	1,175
Cerebro Spinal Meningitis	21	27
Infantile Paralysis	3	1,347
Small Pox	0	1
Special	735	219
Total	3,219	4,437

MISCELLANEOUS

	1915	1916
Visits and inspections	5445	3569
Nuisances found	179	254
Funerals supervised	32	177
Control tests	1078	1134
Rooms fumigated	9765	12589
Total	16449	17823

Respectfully submitted,

HENRY MACDONALD,

Actg. Chief Disinfecting Inspector

DISINFECTING DIVISION.

TABLE SHOWING WORK BY MONTHS

MONTH	NUMBER OF CASES								DISINFECTIONS							MISCELLANEOUS				
	Diphtheria	Scarlet Fever	Measles	Infantile Paralysis	Whooping Cough	Typhoid Fever	Cerebro Spinal Meningitis	Smallpox	Diphtheria	Scarlet Fever	Tuberculosis	Cerebro Spinal Meningitis	Infantile Paralysis	Typhoid	Smallpox	Visits	Notices	Funerals	Other	Total
January	[illegible]	[illegible]	700	[illegible]	[illegible]	6	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]
February	[illegible]	[illegible]	153	6	16	0	[illegible]	0	[illegible]	79	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	4	21	31
March	26	14	[illegible]	[illegible]	1	6	5	[illegible]	[illegible]	[illegible]	1	[illegible]	1	[illegible]	[illegible]	[illegible]	4	[illegible]	1	[illegible]
April	[illegible]	[illegible]	[illegible]	2	74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
May	[illegible]	[illegible]	[illegible]	[illegible]	36	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
June	[illegible]	[illegible]	[illegible]	[illegible]	60	10	5	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
July	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1
August	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19	1	0	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
September	[illegible]	[illegible]	[illegible]	[illegible]	4	30	1	0	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21	[illegible]	[illegible]
October	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19	0	0	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	4	[illegible]	[illegible]
November	[illegible]	[illegible]	1	8	13	[illegible]	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
December	76	27	14	5	22	4	3	1	73	29	107	1	3	11	1	4640	20	9	7	597
Totals	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	37	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

REPORT OF THE DIVISION OF BACTERIOLOGY

Charles V. Craster, M. D., D. P. H., Health Officer:

DEAR SIR — Herewith is respectfully submitted the report of the Division of Bacteriology for the year ending December 31, 1916.

Perhaps the most important subject on which to comment this year is the practical completion of the new building that the City has erected to be devoted to Bacteriological and Pathological diagnostic and research work.

The new regulations regarding cultures from exposed members of families in which cases of diphtheria occur have not been enforced long enough to enable an opinion to be formed as to what the effect is likely to be on the incidence of the disease. Up to date about 400 trial cultures from exposed persons have been taken, and in two cases without symptoms diphtheria bacilli were found.

The value of Diphtheria Antitoxin in the treatment of diphtheria is now so firmly established that little can be said that has not been said before, and it would seem that the only thing to be borne in mind now is that parents or guardians of children should constantly be reminded that diphtheria is just as deadly a disease as ever it was if neglected. And that croupy symptoms or sore throat in a child always call for the attention of a physician.

It is not uncommon to find among the records at the laboratory that the date of the culture slip and that on the death certificate are the same, and the culture slip fre-

quently furnishes the information that the child was sick three, four or even five days when the culture was taken which usually means the first visit of the physician, who was called "too late"

The records of 1916 show that the number of diphtheria cases reported was lower than for any year since 1908. And the results of antitoxin treatment during the year compare favorably with the best results of previous years as shown in the following table:

DIPHTHERIA IN 1916

Number of cases reported	[illegible]
Number of deaths regardless of treatment	[illegible]
Number of cases treated with antitoxin	[illegible]
Number of deaths treated with antitoxin	[illegible]
Number of cases not treated with antitoxin	39
Number of deaths not treated with antitoxin	15 [illegible]
Number of cases treated at the County Isolation Hospital at Soho	154
Number of deaths treated at the County Isolation Hospital at Soho	18=11.6%

DIPHTHERIA AND ANTITOXIN.

The following table gives the results of treating diphtheria with and without antitoxin, and includes three five-year periods previous to 1916. The subsequent years are recorded singly in order to facilitate comparison of the two plans of treatment by single years and by five-year periods:

DIPHTHERIA.

Antitoxin Used				Antitoxin Not Used			
Period	Cases	Deaths	Per Cent	Period	Cases	Deaths	Per Cent.
1895 to 1900	3296	357	10.8	1895 to 1900	2444	528	21.6
1900 to 1905	5070	365	7.2	1900 to 1905	1289	256	19.8
1905 to 1910	5348	323	6.0	1905 to 1910	622	144	23.0
Year				Year			
1910	1252	80	6.3	1910	133	24	18.0
1911	1247	56	4.5	1911	92	18	19.5
1912	1005	76	7.5	1912	93	15	16.1
1913	1489	89	5.9	1913	105	21	20.0
1914	1416	78	5.5	1914	82	11	13.4
1915	1085	48	4.4	1915	22	4	18.1
1916	884	41	4.6	1916	39	15	38.6

It will be noticed from the above table that practically all cases of diphtheria in Newark are treated with diphtheria antitoxin

In going over the records for 1916 we found in a number of the cases that are recorded in the no antitoxin column that the culture for diagnosis was taken on the same day on which the death of the patient was recorded, therefore the examination of the culture took place 24 hours after the patient died This would suggest that the parents or guardians of children sometimes fail to call a physician until the child is in extremis and beyond medical aid.

TUBERCULOSIS.

There have been examined during the year 3,084 samples of sputum of suspected tuberculous persons and in 1,222 specimens the tubercle bacilli were found. This indicates an increase of 15% in the total number of specimens for 1916 as compared with the record of 1915, and shows that about 39% of the specimens contained the germs of consumption.

GENERAL INCREASE IN NUMBER OF ROUTINE SAMPLES NOTED.

There has been a general increase of from 10% to 17% during 1916 as compared with the previous year in the number of specimens of various kinds that constitute the routine work of the division. The increase has been as follows:

Blood examinations, increase	13%
Examinations for Specific Catarrhal Infection, increase	10%
Milk examinations, increase	14%
Water examinations, increase	17%

The following table gives the number of specimens of various kinds examined during each month of the year

BACTERIOLOGICAL LABORATORY RECORD FOR 1916

	Jan.	Feb.	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Diphtheria—													
Primary cultures examined	779	568	603	504	455	332	[illegible]	183	151	316	[illegible]	419	[illegible]
True cases	90	65	41	59	72	41	45	24	[illegible]	[illegible]	71	[illegible]	[illegible]
Total number of cultures examined	957	712	675	613	575	[illegible]	401	323	174	[illegible]	[illegible]	[illegible]	[illegible]
Diphtheria Antitoxin—													
On hand January 1, 1916	562												[illegible]
Number of doses produced	349	348	332	159	......	212	405	503	......	318			[illegible]
Number of doses distributed	456	287	290	246	271	171	155	184	86	323	[illegible]	312	[illegible]
Tuberculosis—													
Specimens of sputa examined	416	422	341	421	438	315	344	212	318	[illegible]	231	254	[illegible]
Specimens containing tubercle bacilli	109	130	104	134	132	88	114	68	130	[illegible]	72	59	[illegible]
Blood examinations typhoid & malaria	51	26	52	44	73	[illegible]	[illegible]	152	142	146	51	49	[illegible]
Specific catarrhal infection examinations	89	66	75	[illegible]	95	90	95	48	[illegible]	85	78	60	[illegible]
Water examinations	22	24	22	24	33	25	33	[illegible]	41	24	24	21	[illegible]
Milk examinations	196	276	109	133	371	411	[illegible]	323	132	261	181	89	[illegible]
Disinfection tests	89	91	116	130	152	131	206	[illegible]		21	18	16	[illegible]
Animals examined for rabies	1	1	2	3	4		1		2	1		1	16

THE CITY MILK SUPPLY.

The milk work of the year has been reviewed in a very thorough manner covering the various features of the subject in the following report prepared by Dr. G. Ward Disbrow, Assistant Bacteriologist.

To R. N. Connolly, M. D., Bacteriologist:

DEAR SIR:—During the past year 2,717 samples of milk have been brought to the laboratory by the inspectors of the Food and Drugs Division. Upon these samples 5,479 tests have been made. As soon as completed the results of the examinations have been reported to the Health Office, where they have been used in grading the city milk supply. Inasmuch as the examinations are of different types, I have thought it best to subdivide this report, and shall therefore take up each division in detail, giving a general summary at the end. For purposes of comparison I shall also give results obtained in each subdivision in preceding years. The technic followed, as heretofore, is that recommended by the Committee on Standard Methods of the American Public Health Association.

ROUTINE EXAMINATIONS.

These comprise agar plate counts, after two days' incubation at 37° C., to determine the bacterial content per c. c. For this type of examination 2,288 samples were brought to the laboratory, 1,492 (65.16+%) of which contained 100,000 bacteria per c. c. or less, thus conforming with the requirements of the ordinance of 1913-14. The remainder, 796 (34.79+%), contained more than 100,000 bacteria per c. c. and were therefore unacceptable under the provisions of the ordinance.

Plate counting after two days' incubation at 37° C. has only been carried out during part of 1913, all of 1914, 1915 and 1916. The results obtained during this period are shown in the following table:

YEAR	Up to and including 100,000		100,001 to 500,000		500,001 to 1,000,000		1,000,001 and Over		Number Samples Examined Each Year
	No.	%	No.	%	No.	%	No.	%	
1913	43	79.62+	10	18.51+	1	1.85+	.....	.....	54
1914	607	70.81+	147	17.15+	48	5.60+	55	6.41+	857
1915	1434	66.88+	383	17.86+	110	5.13+	217	10.12+	2144
1916	1492	65.16+	427	18.68+	121	5.28+	248	10.83+	2288
	3576	66.92+	967	18.09+	280	5.24+	520	9.73+	5343

ROOM TEMPERATURE COUNTS.

Plate counting after four days' incubation at room temperature was discontinued April 1, 1916. Between January first and April first 340 examinations were made by this method.

EXAMINATION FOR STREPTOCOCCI.

During the year 2,717 examinations for streptococci were made. Of these, 2,288 were routine examinations made simultaneously with the 37° C. counts. 429 were special examinations of samples from suspected cows picked out by the Veterinarian during his inspections of the herds supplying the city. Of the 2,288 routine samples examined, 37 (1.61+%) were found to contain streptococci. Of the 429 special examinations 74 (17.24+%) contained streptococci. In the whole number of examinations made, 111 (4.08—%) were found to contain streptococci.

The results of examinations made in preceding years are shown in the accompanying table. The results of special examinations are not included in the figures for 1915 and 1916. In 1915, 16.99+% of the special samples contained streptococci as against 17.24+% for 1916.

YEAR	Samples Examined	Streptococci Present	Per Cent.
1907	436	1	.23+
1908	449	5	1.11+
1909	198	4	2.02+
1910	170	8	4.70+
1911	446	16	3.58+
1912	411	14	3.41+
1913	1001	15	1.49+
1914	872	11	1.26+
1915	2183	8	.36+
1916	2288	37	1.61+
	8454	119	1.40+

EXAMINATIONS FOR ACID FAST ORGANISMS.

It has been known for some time that tubercle bacilli exist in market milk. It is also recognized that acid fast organisms, morphologically identical with the tubercle bacillus and possessing staining characteristics similar to this organism, may be found. With these facts in mind a series of investigations were carried out during 1915 and 1916 to determine whether these acid fast organisms were tubercle bacilli, and capable of producing tuberculosis in animals. In all 174 such examinations were made, in which 36 samples were found to contain acid fast organisms. Whenever found guinea pigs were inoculated with the milk sediments and attempts were made to grow the organisms on gentian-violet egg media and also on glycerine agar. In no instance did the inoculated animals contract tuberculosis and no evidence of the disease could be found on autopsy. In a large number of cultural experiments no organisms even remotely resembling the tubercle bacillus were found. As a result of these investigations it can only be stated that the organisms found, though closely resembling the tubercle bacillus, could not be proven to be this organism.

SUMMARY.

Below is given a table summarizing the examinations made during 1916 as compared with 1915:

	1915	1916
Plate counts at 37° C.	2,144	2,288
Plate counts at room temperature	1,992	340
Routine Streptococci	2,183	2,288
Special Streptococci	106	429
Examinations for Colon Bacilli	260	0
Examinations for Acid Fast Organisms	40	134
	6,535	5,479

Respectfully submitted,

G. WARD DISBROW, M. D.,
Assistant Bacteriologist.

THE CITY WATER SUPPLY.

"PEQUANNOCK."

The condition of the city water has been of such uniformly good quality during the past years, and the users have grown so accustomed to its high condition of purity, that a stranger is given the impression that the Newark people consider the Pequannock water beyond reach of all possible chance of contamination. This feeling of security has been brought about by years of personal reliance on the product, and it is to be hoped that the high regard for the water will always exist and be justified.

The bacteriological condition of the water during 1916 showed no appreciable change in the character of the fluid, and the 271 samples examined from different places and at different times during the year failed to show anything, except what could be regarded as negligible evidence of contamination, as will be seen in the following table:

AVERAGE NUMBER OF BACTERIA PER CUBIC CENTIMETER IN THE PEQUANNOCK WATER AT THE SAMPLING POINTS FOR SIX YEARS.

ORIGIN OF SAMPLES	1911		1912		1913		1914		1915		1916	
	Number of Samples	Average Bacteria Per C.C	Number of Samples	Average Bacteria Per C.C	Number of Samples	Average Bacteria Per C.C	Number of Samples	Average Bacteria Per C.C	Number of Samples	Average Bacteria Per C.C	Number of Samples	Average Bacteria Per C.C
Oak Ridge Stream, above Clinton Stream	21	1452	22	1899	23	111	19	1441	21	852	24	901
Clinton Stream, above Oak Ridge Stream	21	1370	22	779	23	877	19	1529	21	750	24	810
Kanouse Creek, above Pequannock River	21	1576	22	1461	23	1058	19	1130	21	643	24	1123
Echo Lake Stream, above Pequannock River	21	1147	22	1046	23	746	19	1411	21	693	24	1161
Macopin Intake, at Gatehouse	21	1252	22	655	23	733	19	560	21	511	24	496
Cedar Grove Reservoir, at Inlet Gatehouse	22	440	14	430	23	292	20	236	22	195	24	242
Cedar Grove Reservoir, at Outlet Gatehouse	22	208	26	287	23	208	19	215	22	158	24	118
Belleville Reservoir, at Inlet Gatehouse	22	275	29	245	23	192	22	264	22	136	24	135
Belleville Reservoir, at Outlet Gatehouse	22	211	29	267	23	172	22	201	22	108	24	118
Board of Health Office, Plane and William Sts	22	162	32	188	23	91	20	120	22	66	24	59
Laboratory Faucet, City Hospital	22	118	67	152	50	95	44	110	26	99	31	69

Very respectfully,

R. N. CONNOLLY, M. D.,
Bacteriologist

ANNUAL REPORT

OF THE

Serological Laboratory

AT THE

City Hospital

Serological Laboratory

AT THE CITY HOSPITAL

Charles V. Craster, M. D., D. P. H., Health Officer:

DEAR SIR — I herewith submit the report of the Serological Laboratory for the year 1916

ORGANIZATION.

Since May, 1913, the Board of Health has offered to the physicians and hospitals of Newark facilities for the diagnosis and treatment of syphilis. Venereal clinics were established at the City Dispensary and a Serological Laboratory was organized at the City Hospital by combining the facilities of the Bacteriological and Pathological Laboratories.

The Serological Laboratory performs the Wassermann Reaction (an important blood test used in the diagnosis of syphilis), and examines initial and early sores for the Treponema Pallidum (germ of syphilis). Expert advice as to further diagnosis, treatment, etc., of syphilis is given and by judicious argument cases of active syphilis, especially in young adults, are directed to physicians and institutions where they can receive proper treatment and be kept from mixing in society until they have passed their active communicable stage.

The work of the laboratory, namely, the various tests, advice and opinion, are given to residents of Newark free of charge, but only through their doctors.

The Wassermann tests are made once a week at the laboratory. Physicians may collect the blood specimens personally, using the outfit supplied by the Department, or they may send the patients direct to the laboratory for this purpose. Outfits for samples of blood required in the tests, with a history blank containing directions, can be obtained at any of the culture stations established by the Board of Health or at the laboratory.

RECORD OF WASSERMANN TESTS.

The laboratory has at the present time compiled about 12,000 reports of Wassermann tests, about one-third of this number being from the medical and surgical wards of the City Hospital. These reports are filed, bound in volumes and card indexed.

WASSERMANN TESTS FOR THE YEAR 1916

TABLE NO. 1.

MONTH	Number of Wassermann Tests	Positive	Negative
January	343	84	259
February	331	59	272
March	409	103	306
April	334	79	255
May	516	121	395
June	401	100	301
July	336	68	268
August	322	80	242
September	331	72	259
October	342	76	266
November	443	104	339
December	306	63	243
Totals	4414	1009	3405

TABLE NO 2.

Showing source of tests.

MONTH	City Hospital		City Dispensary		Other Sources	
	Positive	Negative	Positive	Negative	Positive	Negative
January	18	102	7	23	59	134
February	12	90	7	41	40	141
March	19	83	29	38	55	185
April	11	69	18	18	50	166
May	25	142	24	33	72	210
June	13	90	18	32	69	179
July	10	99	12	27	46	142
August	9	35	12	23	59	184
September	7	58	10	22	55	179
October	15	51	13	34	48	181
November	15	83	30	54	59	202
December	10	38	9	31	44	174
Totals	164	940	189	376	656	2077

Other sources than the City Hospital or City Dispensary comprise those blood specimens sent to the laboratory by over 370 physicians in Newark and the following institutions St Barnabas' Hospital, German Hospital, St Michael's Hospital, St James' Hospital, Newark Eye and Ear Infirmary, Beth Israel Hospital, Homeopathic Hospital, Home for Crippled Children, Women's and Children's Hospital, Babies' Hospital, Verona Sanatorium, Soho Isolation Hospital, Florence Crittendon Home, Department of Education, Department of Child Hygiene and the Prosecutor's Office of Essex County

TABLE NO 3

Total number of Wassermann tests since laboratory started:

1913 (8 months only)	1,061
1914	2,322
1915	3,688
1916	4,383
Total for four years	11,454

FUTURE ACTIVITIES.

When the Bacteriological Department of the Board of Health and the Pathological Department of the City Hospital move into the new joint Laboratory building, situated at the City Hospital and about ready for occupation, the work of the serological laboratory will be greatly augmented, due to the increased help and equipment which will be available. It is hoped then that the work of the laboratories may be increased by the performance of complement fixation tests for the diagnosis of gonorrhœa, tuberculosis, pertussis, glanders and certain streptococcal infections, and that the study of certain problems in infection and immunity will be possible.

In the near future the laboratory expects to perform the Wassermann tests on five days of the week, instead of one as at present.

In previous reports attention was called to the fact that it was fast becoming a diagnostic necessity in the City Hospital to have routine Wassermann tests carried out on patients staying in the hospital for a longer period than one week. In the diagnosis of many of the chronic organic lesions of the central nervous system, etc., a complete serological examination of the blood and spinal fluid is just as important as, for example, the examination of the urine in a case of Bright's Disease. This, for instance, in the spinal fluid alone, means the examination of the globulin content, phenolsulphonephthalein excretion, complement fixation and colloidal gold reactions, all procedures which cannot easily be separated one from the other. With the new laboratory facilities we may expect a considerable increase in the work of this laboratory.

Respectfully,

H. S. MARTLAND, M. D.,
Pathologist.

ANTITOXIN AND CULTURE STATIONS BY WARDS

Ward	STATION	Street and Number	Telephone No
First	A. R. Bianchi	Seventh Avenue and Sheffield Street	1456 B. B.
First	W. R. Scudder	93 Belleville Avenue	1142 B. B.
First	Second Precinct Police	Sussex and Seventh Avenues	2[illegible] Market
Second	St. Michael's Hospital	Central Avenue and High Street	761 Market
Second	City Dispensary	Plane and William Streets	8[illegible] Market
Second	C. Holzhauer	Broad and Market Streets	1[illegible]42 Market
Second	E. F. Fielding	925 Broad Street	[illegible]4 Mulberry
Second	C. W. Menk	106 Market Street	291 Mulberry
Second	First Precinct Police	Court and Washington Streets	54[illegible] Market
Third	St. Barnabas' Hospital	681 High Street	6[illegible]0 Market
Fourth	Firemen's Pharmacy	Broad and Market Streets	3[illegible]6 Market
Fourth	A. E. Sayre	182 Broad Street	[illegible]74 Market
Fourth	Max Lewitt	Broad and Fulton Streets	10[illegible]71 Market
Fifth	I. M. Greenfield	261 Walnut Street	[illegible]8[illegible] Market
Fifth	Seidler's Drug Co.	21 Ferry Street	8[illegible]1 Market
Sixth	J. P. Smith	315 South Orange Avenue	15[illegible]4 Mulberry
Sixth	L. L. Staehle	169 South Orange Avenue	1[illegible] Market
Sixth	City Hospital	116 Fairmount Avenue	93[illegible] Market
Seventh	D. Strauss	62 Springfield Avenue	[illegible]6[illegible] Market
Seventh	P. J. Corrigan	25 Wallace Place	3[illegible]7 Market
Eighth	Ellwood Pharmacy	190 Washington Avenue	1091 B. B.
Eighth	Oriental Pharmacy	289 Belleville Avenue	[illegible]53 B. B.
Eighth	H. J. Quin	187 Bloomfield Avenue	[illegible]69 B. B.
Eighth	L. Arnold	184 Mt. Prospect Avenue	4134 B. B.
Eighth	Eighth Precinct Police	Washington Avenue	5400 Market

ANTI-TOXIN AND CULTURE STATIONS BY WARDS—*Continued.*

Ward	STATION	Street and Number	Telephone No.
Ninth	Geo. Linnett & Bro	77 Lincoln Park	3034 Mulberry
Ninth	G. F Teupel	21[illegible] Clinton Avenue	818 Waverly
Tenth			
Eleventh	J. B Foster	Orange Street and Roseville Avenue	151 B B
Eleventh	Fifth Precinct Police	Orange and Sixth Streets	5[illegible] Market
Twelfth	O Scholz	131 Hamburg Place	434[illegible] Market
Twelfth	O Von Gerlach	200 Ferry Street	10244 Market
Twelfth	Bowery Pharmacy	28 Fleming Avenue	10104 Market
Twelfth	Third Precinct Police	Van Buren Street	510[illegible] Market
Thirteenth	A Marquier	1011 South Orange Avenue	2878 Mulberry
Thirteenth	A Rousch	661 Springfield Avenue	2444 Waverly
Thirteenth	Seventh Precinct Police	South Orange Avenue	5400 Market
Fourteenth	F L Feind	76 Belmont Avenue	2494 Waverly
Fourteenth	Aug Koelble	362 Springfield Avenue	1531 Waverly
Fourteenth	Fourth Precinct Police	Seventeenth Avenue	5400 Market
Fourteenth	C Wuensch	494 Springfield Avenue	2484 Waverly
Fifteenth	E Broch	398 Central Avenue	3301 Market
Fifteenth	L Hagny	Central Avenue and Fifth Street	1651 B B
Fifteenth	C P Moll	166 Central Avenue	1519 Market
Sixteenth	H. Hagny	531 Clinton Avenue	2468 Waverly
Sixteenth	G J Keller	191 Avon Avenue	1103 Waverly
Sixteenth	W J Witt	821 Clinton Avenue	284[illegible] Waverly
Sixteenth	Sixth Precinct Police	Hunterdon and Bigelow Streets	5406 Market

CULTURE COLLECTORS.

John F Dunn	65 South Seventh Street
William J. Foyle	142 Hudson Street

ANNUAL REPORT

OF

THE CITY DISPENSARY

Dr. C. V. Craster, M. D., D. P. H., Health Office.

Dear Sir I beg to submit the report of the Dispensary for 1916

DISTRICT PRESCRIPTIONS—1916.

DISTRICT	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
First	105	78	93	51	76	52	65	35	37	24	34	36	689
Second	62	35	16	20	21	22	31	16	16	20	20	51	363
Third	139	68	82	53	42	32	25	35	22	24	32	55	609
Fourth	160	129	116	102	82	43	49	50	33	34	28	35	861
Fifth	102	85	138	72	18	32	18	11	6	20	34	24	591
Sixth	52	30	45	32	35	35	24	33	22	15	12	25	370
Total	620	425	520	331	307	216	222	180	136	137	160	226	3,483

RECAPITULATION

Total number of patients treated	32,171
Total number of prescriptions	40,641
Total number of patients sent to hospitals	1,860
Total number of vaccinations	417
Total number of laboratory specimens examined	3,775

TOTAL ATTENDANCE AT THE CITY DISPENSARY BY MONTHS AND DISEASES TREATED.

CLINICS	Jan.	Feb	Mar	April	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Total
Medical	58	45	57	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Surgical	69	63	68	191	[illegible]	[illegible]	58	69	511	411	176	115	[illegible]
Skin	158	178	207	142	142	145	[illegible]	[illegible]	79	10	81	83	1,370
Syphilis	159	215	208	82	38	23	212	237	192	203	246	196	[illegible]
Children	18	178	108	183	214	218	66	*	21	105	123	104	1,178
Women	68	66	91	58	62	37	40	38	46	71	84	29	610
Genito-Urinary	325	239	214	176	181	191	189	223	161	181	199	178	2,410
Eye, Ear, Nose and Throat	128	10	89	129	145	168	76	38	41	77	85	69	1,987
Nerve	179	184	215	125	184	215	152	130	190	144	153	150	1981
Tuberculosis	111	542	581	584	627	674	211	182	176	462	471	83	5 317
Dental	5	28	51	37	9	31	26	47	23	29	3	25	392
Vaccinated	10	34	51	42	5	25	12	15	85	31	15	20	117
Orthopedic	40	29	4	57	33	34	16	9	180	541	466	362	1,772
Rectal	11	9	18	21	20	12	17	[illegible]	38	16	53	215	
Total treated	3 40	2813	3 75	2689	3106	2981	2029	2 14	2625	2793	2 7	2445	32 171
Clinic prescriptions	3060	2966	3609	3108	3690	3607	2474	2854	2534	3260	3130	2866	37,158

Closed owing to Epidemic of Poliomyelitis

PATIENTS SENT TO HOSPITALS BY PERMIT ISSUED FROM THE DISPENSARY FOR CITY HOSPITAL AND CITY BEDS IN OTHER HOSPITALS

HOSPITALS	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jly.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
City	58	38	44	28	64	34	38	10	21	39	40	17	431
St. Michael's	13	14	[illegible]	12	[illegible]	4	4	14	6	6	6	11	113
St. Barnabas'	7	13	9	10	10	5	10	9	12	7	12	7	111
St. James'	[illegible]	[illegible]	12	9	5	6	9	11	7	2	2	13	94
Gottlieb	10	12	[illegible]	[illegible]	13	10	3	7	13	6	6	6	104
Beth Israel	12	8	[illegible]	1	[illegible]	11	[illegible]	18	7	11	9	11	124
Women and Children's	4	4		[illegible]		[illegible]	4	[illegible]	[illegible]	6	3	[illegible]	45
Home for Crippled Children	1		1	[illegible]		1	[illegible]	1		[illegible]	[illegible]	1	[illegible]
Eye and Ear Infirmary	[illegible]	32	24	21	35	[illegible]	[illegible]	7	19	14	[illegible]	[illegible]	256
Babies'	6	20	16	13	12	14	20	12	11	18	11	9	162
Tuberculosis Sanatorium	[illegible]	28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19	[illegible]	24	16	[illegible]
Eighth Avenue Day Nursery	[illegible]	[illegible]	1	[illegible]	2	1	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]	6
Totals	178	177	17[illegible]	[illegible]6	187	141	12[illegible]	120	126	132	160	108	1,8[illegible]

REPORT OF DISPENSARY PATHOLOGIST.*

LABORATORY SPECIMENS	April	May	June	July	Aug	Sept	Oct	Nov.	Dec.	Total
Wassermanns	36	57	49	39	34	32	48	85	38	418
Urines	167	204	227	178	187	208	238	284	214	1,907
Sputums		11	27	11	7	18	19	21	23	137
Exudates and transudates	[illegible]	[illegible]	178	169	162	196	157	197	178	1,229
Blood	[illegible]	[illegible]		9	1	2	11			31
Surgical Specimens						7				8
Examinations for Trep. Pallidum				11	7		7	[illegible]	4	37
Intravenous "606"									8	8
Totals	215	315	481	357	402	463	452	595	465	3,775

* Appointed April 19.6

VACCINATIONS AT CITY DISPENSARY.

	Jan	Feb	Mar	April	May	June	July	Aug.	Sept	Oct	Nov.	Dec	Total
Vaccinations	10	34	54	42	65	25	12	15	85	34	15	26	417

Respectfully,

WILLIAM SMITH,
Pharmacist

The following chart shows the work performed by the District Physicians during the year:

	Dr. Fischer	Dr. Jedel	Dr. Hill	Dr Broadnax	Dr Rodemann	Dr Hirschberg	Total
Actual No of houses visited	1292	589	686	217	740	932	4456
Actual No. of families visited	1241	592	682	243	772	943	4473
No. of sick prescribed for	1313	621	658	305	819	1245	4961
No of sick treated by others	93	[illegible]	10	1	24	18	147
Total No visits made	1496	745	1263	1136	1291	2299	8230
No. sent to hospital	165	61	79	37	106	30	478
No. of deaths	12	3	10	6	9	5	45

The following table shows the work of the Parochial School physicians in the 25 schools under their medical care:

NATURE OF WORK	Dr M. J. Coffey	Dr Raymond Mullin*	Dr H. G. McBride	Dr D. R. Campbell	Dr P. J. Clark†	Dr H. C. Povey	Total
Pupils examined	2070	3503	502	2316	77	1764	10,232
Physical examinations	1559	34	131	200	25	1123	3,072
Vaccinations	140	....	22	124		83	369
Treatments administered	462	369	264	916	[illegible]	1304	3 390
Classroom inspections	557	89	288	353	149	1750	2,875
Skin diseases	154	51	88	391	28	405	1 100
Eye defects discovered	151	56	50	276	5	139	677
Ear defects discovered	25	17	25	199	10	46	322
Contagious diseases	63	9	4	.....	8	2	86
Tonsilitis cases	58	42	38	413	30	147	728
Other defects and ailments	144	18	285	1606	5	336	1 794

*Dr Mullin after March 1st. †Dr Clark up to March 1st

ANNUAL REPORT

OF THE

BUREAU OF TUBERCULOSIS

ANNUAL REPORT

OF THE

BUREAU OF TUBERCULOSIS

Charles V. Craster, M. D., D. P. H., Health Officer:

DEAR SIR — Herewith I present the report of the Division of Tuberculosis for the year 1916:

SANATORIUM AT VERONA

Patients in Sanatorium December 31st, 1915		62
Patients admitted during year 1916		296
		358
Patients discharged during year	254	
Patients died	11	
Patients in Sanatorium December 31st 1916	93	
		358

Condition of Patients on admission

Incipient	65	22%	
Moderately advanced	120	41%	
far advanced	111	37%	
			296

Condition of Patients on discharge

Apparently arrested	75	29%	
Quiescent	32	13%	
Improved	53	21%	
Not improved	68	27%	
Unclassified because of too short a stay	26	10%	
			254

Since discharge 73 of the apparently arrested cases have advanced to the arrested class, 20 of the quiescent cases to the apparently arrested class, 37 of the improved cases to the quiescent class. All of these continued their improvement after the upward start given them at the Sanatorium because of the conditions of fresh air and food at home approximated those pertaining to the Sanatorium.

The remaining 24, of whom 2 were apparently arrested cases, quiescent, and 10 improved, retrogressed after a longer or shorter stay at home. All were from time to time readmitted to the Sanatorium where improvement again was shown.

The future of these 24 is problematical, as in no case are the fresh air and food at home equal to the necessity; and the limited capacity of the Sanatorium and remaining strictly a city institution, it would be unfair to others needing sanatorium care, to keep patients in the institution, after a certain length of time of continued improvement.

The 68 unimproved are some of them in their homes, some of them in hospitals and some of them in Soho. Ten of them have since died.

The 75 apparently arrested cases were, on admission, 63 incipient and 12 moderately advanced. The 2 incipient cases not included in this improvement retrogressed steadily from admission.

The 32 quiescent cases were, on admission, 28 moderately advanced and 4 far advanced.

The 53 improved cases were, on admission, 40 moderately advanced and 13 far advanced.

The 68 unimproved cases were, on admission, 30 moderately advanced and 38 far advanced.

The 20 who left after a short stay were far advanced on admission, some were sent to the City Hospital, some to Soho and some to their homes. Twenty of them have since died.

The remaining 40 moderately advanced cases are, at this writing, still in the institution. All but 6 are improving, and these 6 will soon be sent from the Sanatorium.

The balance of the far advanced cases admitted, 64, have for the most part improved. These will be held at the institution until their improvement is stable, a stay of not more than 6 weeks longer for any of them.

Interesting facts evolved from a study of the figures given are that 12, 10%, of the moderately advanced cases admitted improved to the apparently arrested class, 28, 23%, improved to the quiescent class during their stay at the Sanatorium. That 4, 3%, of the far advanced cases were quiescent cases and 13, 11%, improved at the time of leaving the institution. The great number of moderately and far advanced cases in the city, constant menace in the home and in many instances to the public, together with the lack of beds for such cases in the hospitals in the city and in the county sanatorium at Soho, were the reasons for admitting them to the Sanatorium. The Division is hopeful that the above showing of results will disarm some of the criticism excited by this policy.

CIVIL CONDITION.

Married	154
Single	137
Widowed	5
	296

OCCUPATIONS OF THOSE ADMITTED.

MALE

Factory hands	29	Painters	3
School boys	10	Silversmiths	3
Salesmen	9	Undertakers	2
Drivers	9	Tool makers	2
Button makers	8	Bakers	2
Laborers	7	Steel workers	2
Electricians	7	Hatters	2
Press workers	4	Firemen	2
Tailors	4	Stove makers	2
File cutters	4	Plumbers	2
Mechanics	3	Beef handlers	2
Plaster makers	3	Bartenders	2
Shipping clerks	3	Waiters	2

ONE OF EACH OF THE FOLLOWING.

Jail keeper	Elevator man	Paper hanger
Mason	Motion picture operator	Peddler
Watch maker	Cigar maker	Carpenter
Bookkeeper	Brewer	Lumber dealer
Street cleaner	Agent	Advertiser
Policeman		Watchman

OCCUPATIONS OF FEMALE PATIENTS.

Housewives	32	None given	3
Factory hands	22	Sales clerks	2
Tailoresses	5	Maid	1
Dressmakers	4	Laundress	1

The balance of those admitted to the Sanatorium could give no occupation.

SEX OF THOSE ADMITTED.

Male	213
Female	83
	296

SEX OF THOSE DISCHARGED

Male	181
Female	73
	254

COMPARATIVE MONTHLY ADMISSIONS AND DISCHARGES DURING 1915 AND 1916.

1916	Admitted	Discharged	1915	Admitted	Discharged
January	27	28	January	12	13
February	28	16	February	13	11
March	27	19	March	12	11
April	31	31	April	15	20
May	25	24	May	16	15
June	20	20	June	13	12
July	23	25	July	12	13
August	30	20	August	25	19
September	20	23	September	15	22
October	18	19	October	19	12
November	25	8	November	17	10
December	21	24	December	22	21
	295	257		191	179

FINANCIAL REPORT.

EXPENSES

Food		$21,112.55
Maintenance outside of food		4,415 71
Improvement account		2,178.40
Overhead expenses -		
Salaries	$9,781 29	
Light, Heat, Water, etc.	2,979 25	
		12,761 14
		$40 467 80

Sanatorium days	31,125
Total per capita	1.304
Total per capita aside from Improvement account	1.234
Total overhead per capita, including Improvement account	.481
Total overhead per capita aside from Improvement account	.411
Maintenance per capita, including food	.822
Food per capita	.68

The total per capita, 1.304, is .405 under that of 1915. The food per capita, 68, is .22 under that of 1915. The improvement per capita is .04 under that of 1915. The maintenance per capita aside from food is the same as that of 1915. The overhead per capita, inclusive of maintenance, is .145 under that of 1915.

This last is explained by the fact that an average of 85 patients a day were cared for during 1916, as against an average of 62 during 1915, without any increase in medical department, nursing department or help, nor increase in heat and light cost.

A comparison of the food per capita with that of 1915 is interesting. This per capita for 1916, as stated above, is .22 under that of 1915, notwithstanding the great advance in cost of food supplies during the last four months of the year. The explanation of this is that the food per capita for the first six months of 1915, before the Division was established, was .9366. This high per capita for this six months made the whole of 1915 per capita high, in view of the then prices of food supplies, even though the per capita of the last six months was reduced to .5.45.

I have gone into the above minutiae of cost as a justification for the increase in bed capacity made during the year. This increase was largely made just previous to the post summer advance in foods of all kinds, except milk, to increased number of patients notwithstanding this advance has been kept at a per capita of .22 below that of 1915.

This, too, is explained by the fact that food cost ratio does not advance equally with increasing number of beds.

The great expense in improvements was caused by laying an auxiliary pipe line for water from the city home to the sanatorium. This, with the fire escapes placed last year, secures adequate defense against fire peril.

CLINICS.

The attendance at the clinics was as follows:

Attendance at Laryngeal Clinics	225
For admission to Verona Sanatorium	780
Attendance at Children's clinics	1,800
Attendance at Adults' clinics	2,544
	5,349

The applicants for admission to Verona were 248 more than in 1915. The attendance at the children's clinics was 300 over that of 1915 and at the adults' clinics 200 over that of 1915, a great increase, in view of the fact that the clinics were closed during July, August and September, the months of the Infantile Paralysis epidemic. The demand for clinics in different parts of the city is constantly growing emphasized by the President of the Board. It has been impossible to establish additional clinics with the Division's limited appropriation.

All children appearing at the clinics have received the Von Pirquet test. Those showing a reaction have received a physical examination, and have had an X-ray taken; results have shown 1,010, 56%, with lesions, either tone glandular or pulmonary. This percentage is lower than was found in 1915, and is accounted for by the fact that many children have been examined from homes where intelligence has been a great factor in preventing infection, and the further fact that many children examined were born after the establishment of the Division with its increased nursing force. These children have in many instances been safeguarded by the teaching the parents have

receive [illegible] nurses a teaching lacking, in many homes, at the time of the advent of the previous children.

Wards from which the 1,010 children came.

Ward	Children	Ward	Children
1	[illegible]	9	51
[illegible]	[illegible]	10	89
[illegible]	[illegible]	11	28
[illegible]	[illegible]	[illegible]	47
[illegible]	[illegible]	13	75
[illegible]	[illegible]	14	124
[illegible]	[illegible]	15	61
[illegible]	[illegible]	[illegible]	48

LARYNGEAL CLINIC

The value of the Laryngeal Clinic cannot be over estimated [illegible] pulmonary tuberculosis [illegible] Larynx is the most common and [illegible] Every diagnosis is important [illegible] made and treatment instituted the greater the chance of recovery. By early treatment we can also avoid the painful and distressing feature of this complication.

FIELD WORK

During the first six months of the life of the Division ending December 31st, 1915, the nurses in its employ made 3,976 visits. At this rate the number for a year would have been 7,952. Under a speeding up policy, however, the five nurses during the year 1916 made 10,733 visits and made 7,480 investigations of home, civil, occupational and [illegible] To [illegible] include the visits made by [illegible] assistant to find [illegible] patients unable to [illegible] The [illegible] sixty eight such visits were made during the year 1916.

The field work will not be satisfactory to me as the responsible head of the Division, having a first hand knowledge of the tuberculosis problem in the city, until the department has

a sufficient nursing force to go into every tuberculous home. This is impossible with the force of at least fifteen nurses. It must not be forgotten that the work of these nurses is for the great part educational requiring visiting, and revisiting in many homes. The most intelligent tuberculous patient is prone to grow careless, and only the constant reminder from the nurse can effectually meet the necessity of safeguarding the family and the public.

THE TUBERCULOUS SITUATION IN THE CITY.

Cases reported during the year	2,419
Patients still living reported in previous years	5,000
Deaths (all forms)	776

The number of cases reported for the year exceeds the number reported in the year 1915 by 273. This increase was been almost entirely reported by the clinics of the Division. The conviction is that very many cases are still being missed and so go untreated. This conviction grows as experience in the clinic grows, which experience has shown many cases as having been treated as "Malaria," "A run down condition," "Chronic bronchitis," "Weak lungs but not tuberculosis," etc.

The Division has knowledge of 1,419 cases of open tuberculosis, that is, cases which have bacilli in their sputum. Those with only a superficial knowledge of the danger of infection shun personal contact with these, but those with a deep knowledge of the tuberculosis problem know that it is these open cases which are the sources of infection of the thousands of children infected and know, too, that they are a menace to the public, through a street spitting habit and the handling of foods and drink.

There are, with our known incomplete records of the Newark tuberculous situation, 123 to 150 handlers of fish, dealers, butchers, peddlers, meat handlers, bakers, candy dealers, restaurant keepers, waiters, cooks, 83 handlers of

drinks, milk, soda water and alcoholic drinks), 39 cigar makers and 37 barbers in the city who are tuberculous.

Also those with a deep knowledge of the subject and a specific knowledge of this problem as it relates to Newark know that in Newark it is the most demanding health problem. We know that economically it should be the most demanding problem of the city and county government. We know the problem can only be met with happy success by providing beds for the open cases, to remove these sources of infection from their homes and from the city. We know the number of beds should be one for each death. The problem now demands 800 beds for open tuberculosis cases.

We know that in addition to these beds there should be housing facilities for the host of children known to be infected; a preventorium where such children can have their immunity against their infection raised to the highest point.

We know that clinics should be established at selected points in the city which would be the feeders of Sanatorium and Preventorium, as well as a place for the treatment of the ambulatory, sterile sputum pulmonary cases, and the joint and glandular cases.

We know that in connection with these clinics there should be a large clinical staff and a nursing force adequate to the need which will occur with the establishment of many clinics.

The faith of the Division is that the city of Newark will some day make good its obligation to the tuberculosis situation. Its hope is that this fulfilment may be speedily realized.

Respectfully submitted,

THOMAS N. GRAY, M. D.,
Director of the Bureau of Tuberculosis.

ANNUAL REPORT

OF THE

Division of Child Hygiene

ANNUAL REPORT

OF THE

Division of Child Hygiene

DEPARTMENT OF HEALTH

Dr. C. V. Craster, Health Officer.

DEAR SIR:—I herewith present the report of this division for the year 1916.

STATISTICAL SUMMARY

INFANT MORTALITY RATES

	1916	1915
Deaths under one year per 1,000 births	89.6*	85.3
City death rate (deaths at all ages per 1,000 population)	16.5	14.3
*If deaths under one year from poliomyelitis are omitted the infant mortality rate is 83.7		
Rate for entire city	89.6	
Rate for supervised babies	26.3	
To compare same age groups—		
Rate for entire city	89.6	
Rate for supervised babies (including all babies who died before visited by nurse)	41.0	

RESULTS OF SUPERVISION OF EXPECTANT MOTHERS

Death rate of infants during first month per 1,000 living births	7.0
City rate per 1,000 living births	39.0
Death rate of still births per 1,000 living births	11.7
City rate per 1,000 living births	41.7

EFFECT OF SUPERVISION OF BABIES ON FEEDING.

	Per cent
Prenatal Cases—	
Infants entirely breast fed at end of first month	99.0
Infants partially breast fed at end of first month	0.5
Infants entirely artificially breast fed at end of first month	0.5
Birth Record Cases—	
Infants entirely breast fed at 6 months	84.9
Infants partially breast fed at 6 months	10.9
Infants entirely artificially fed at 6 months	4.2

Ophthalmia Neonatorum—

No case of blindness reported in 1916.

45% reduction in the number of cases reported

BIRTH REGISTRATION

Discovered unreported births, by looking for the birth record of all babies that died under the age of one year.

Year	Births	Deaths Under One Year	Discovered Unreported Births	Per Cent
1914	11,107	1,122	174	15
1915	10,955	935	125	13
1916	11,446	1,026	99	9

GENERAL ACTIVITIES

During 1916 the work has been extended particularly in the care of expectant mothers and the supervision of the child up to the pre-school period. With an appropriation a little less than twice as large as that of 1914, we have taken on many new activities and have accomplished three and four times as much work for the mothers and babies. [illegible] and supervised [illegible] thoroughly organized and the work can be extended to other parts of the city without any loss of efficiency as rapidly as funds are available.

NURSES' ACTIVITIES

	1916	1915	1914
Supervised babies	3,091	2,122	1,719
Nurses' visits to homes	23,630	14,247	5,163
Nurses' visits to Consultation Stations	3,824*	5,247	2,554
Expectant mothers receiving prenatal care	712	391	52
Members of Little Mothers' League	350	240	60
Attendance at Little Mothers' League classes	2,459		
Bad housing conditions reported	287		
Contagious diseases reported	147		
Defects corrected in older children	82		

*Stations closed on account of epidemic

SUPERVISION OF MIDWIVES

Midwives supervised	95	100
Licenses revoked	3	.
Midwife moved out of city	1	
Died	1	

BOARDING HOMES FOR INFANTS.

Licenses granted	46	40
Number of infants boarded out	43	32
Number of infants in boarding homes at end of 1916	40	

OPHTHALMIA NEONATORUM.

Cases supervised	18	9
Cases discovered by smears sent in by Division nurses	4	.
Number of smears sent in by Division nurses	29	

SUMMARY OF RESULTS FOR THE CITY.

The infant mortality rate for 1916 was 89.6, deaths under one year per 1,000 births.

To compare this rate with previous years it is desirable to know for the unusual epidemic of poliomyelitis, which was responsible for 5.0 points in the infant mortality rate

[illegible] omitted the infant mortality rate becomes 83.7, or 1.6 points lower than it was in 1915.

This record is rather encouraging, as during 1916 we also had a very severe epidemic of measles and influenza when 8283 cases of measles were reported. Twenty three deaths under one year were due to measles and 3 to influenza, while in 1915 only 10 deaths were due to measles and influenza combined.

A comparison with the large cities of the country places Newark at the head of the list.

Newark	89.6	Cleveland	106.9
New York	93.1	Pittsburgh	109.2
St Louis	94.	Detroit	112.8
Philadelphia	100.1	Buffalo	113.9
Boston	104.0	Baltimore	118.1

PROPORTION TO TOTAL DEATHS. It is gratifying to note that since the Board of Health has entered the field of preventive child hygiene work, deaths under one year represent 2% less of the total deaths than during the previous three years and that if the infant mortality rate of 1910 had obtained in 1916, 379 more babies would have died.

From 1901 to 1905 the deaths under one year represented 21% of the total deaths, from 1906 to 1910 this proportion increased to 21.0; from 1911 to 1913 it decreased to 19.73; in 1915 to 16.98 and in *1916 to 16.2.*

PRENATAL CARE. The value of the child hygiene activities is more in the health of living infants than in the [illegible] of dead ones. A comparison between supervised [illegible] and unsupervised babies with those of the entire city is very instructive. While the number of still births per 1,000 births in the entire city was 41.7, the rate [illegible] to expectant mothers was 11.6; while [illegible] under one month of age in the [illegible] of the babies of supervised expect

ant mothers was 7.0 per 1,000 births, and while the general infant mortality rate for the city was 89.6 per 1,000 births, the death rate among supervised babies was 26.3.

LIVES SAVED. In order to make a more accurate comparison between the infant mortality rate of the entire city and that of the supervised babies we have included all the babies that were to be supervised in the mortality figures of the Division, even though they died before the nurse visited them. This would give a death rate for supervised babies of 41.0 per 1,000 births, still less than one half that of the city.

Another way to compare the infant mortality rate of the city with that of the supervised babies would be to deduct all the deaths occurring in the first week from the city's deaths, as our babies are usually over one week old before placed under supervision. This would give an infant mortality rate for the city of 63.0. Even if we deduct all the deaths of the city occurring in the first two weeks of life the infant mortality rate will be 58.1, more than twice as high as that of supervised babies.

MATERNAL NURSING. The best guarantee for the life, health, vigor and resistance of our infants is to be found in the number of breast fed. This year the percentage has again been increased, so that of 1,073 cases 84.8% were entirely breast fed for at least six months, 9.8% were partially breast fed for at least six months and only 4.2% were entirely artificially fed before six months of age, while among 423 babies of mothers supervised during the prenatal period 99% were breast fed during the first month of life.

MOTHERS SAFEGUARDED. There has been a considerable saving of mothers in confinement in the past three years, as is shown by the death rate from puerperal deaths

PUERPERAL DEATHS

	1916	1915	1914
Rate per 1,000 deliveries	2.1	3.5	4.9
Rate per 1,000 births	2.2	3.6	5.3

Rates in other large cities per 1,000 births, 1916:

New York	1.6	Cleveland	5.6
Buffalo	3.2	Boston	6.5
Detroit	3.7	Baltimore	6.8
St Louis	5.2	Philadelphia	7.0

SEPSIS. Of 26 cases reported 18 were investigated, and in only six was a midwife in attendance at any time. Since the midwives attended 48.7% of all births this is a very good record.

BIRTHS.

The total number of births in Newark during 1916 numbered 11,446. This number as well as the birth rate shows an increase in 1916 over 1915.

DISTRIBUTION. In three wards of the city there were more than 1,000 births in each, namely, the First, Third and Fourteenth. The First and Fourteenth Wards are inhabited mostly by Italians, and the Third by Russians and Austrians.

It is interesting to study the birth rates in the different wards. (1) This study is based upon the estimated population of the various wards in 1915.

WARDS	Population	Total Births	Rate per 1,000 Population
First	27,390	1,125	41.0
Second	15,087	270	17.8
Third	34,630	1,183	34.1
Fourth	10,163	237	23.3
Fifth	19,559	979	50.0
Sixth	18,613	448	24.0
Seventh	16,021	495	30.8
Eighth	24,966	662	26.5
Ninth	25,381	603	23.7
Tenth	18,399	887	48.2
Eleventh	17,255	391	22.6
Twelfth	22,503	759	33.7
Tarteenth	33,789	940	27.8
Fourteenth	36,781	1,098	29.8
Fifteenth	15,327	406	26.1
Sixteenth	30,887	742	24.0

The highest birth rates were in Wards 5, 10 and 1, in which the birth rate was over 40 per 1,000 population. The popalation in Ward 1 is Italian, and in 5 and 10 about 75% is foreign born, principally Italian, Austrian and Russian

The lowest birth rate was in Ward 2, with a rate of 17.8 The population of this ward is largely native born and includes a large colored population.

Wards 3, 12, 7 and 14 had rates above the rate of the city.

NATIVITY The percentage of births of native born white mothers, Austrian and Irish mothers has slightly increased over the previous year, while the percentage of births of Italian, Russian, and English has slightly decreased.

41.7% of the total births were of native born mothers, 21.2% of Italian mothers, 12.2% of Russian mothers and 15.5% of Austrian mothers Colored, German, Irish and English mothers each contributed less than 3% of the total births

BIRTHS FOR EACH WARD BY NATIVITY OF MOTHER

WARD	United States	Italy	Russia	Austria	Germany	England	Ireland	Others	Total
First	246	709	7	11	4	11	23	4	1,125
Second	179	21	15	13	2	5	13	22	270
Third	204	43	141	425	9	5	4	49	1,183
Fourth	134	46	8	17	6	5	7	14	237
Fifth	219	227	178	285	6	2	17	45	979
Sixth	288	42	25	43	12	5	27	6	448
Seventh	177	159	43	72	6	1	14	20	495
Eighth	59	167	17	21	22	11	15	15	662
Ninth	167	57	13	34	15	18	20	33	6 3
Tenth	215	321	84	189	17	11	17	33	887
Eleventh	287	34	14	11	11	10	9	15	391
Twelfth	227	15	152	285	33	5	18	24	759
Thirteenth	568	41	116	78	53	20	31	33	940
Fourteenth	256	389	146	221	40	5	5	36	1,098
Fifteenth	213	92	13	17	11	5	35	20	406
Sixteenth	495	4	95	55	40	12	12	29	742
Totals	4,505	2,431	1,399	1,777	287	131	267	428	11,225

Not [illegible] 21 births of non resident and address unknown not included in total.

[illegible], 82 or about one half of all the births were [illegible] Italian and Austrian mothers, of whom 70% and 76.9% respectively were attended by midwives. While 21.1% of native women and 48% of Russian mothers employed midwives, there was a slight decrease in the proportion of mothers of all nativities, excepting Italian and Austrian, who employed midwives in 1916.

4,488, 39.2%, were attended by physicians, and 1,374, 12%, were attended in hospitals. This is a slight increase over 1915. It is interesting to note that hospitals are patronized very little by Italian and Austrian mothers. Of [illegible] in hospitals 8+ were native born

Attendant	Births	Percentage Distribution
Midwife	5,582	48 7
Physician	4 488	39.2
Hospital	1,374	12 0

BIRTHS BY NATIVITY OF MOTHER AND ATTENDANT

NATIVITY OF MOTHER	Total	Midwife	Physician	Hospital	Percentage of Midwives
Italy	2 471	2,200	215	16	90.5
Austria	1,783	1,343	312	98	76.9
United States	1 084	993	2,797	894	21.1
Russia	1 166	676	558	172	48.0
Germany	290	101	143	43	35 8
Ireland	241	47	183	41	17.3
England	138	20	90	28	14.5
Others	441	169	190	82	38.2
Totals	11,141	5,582	4,488	1 374	48 7

NOTE—Two births had no attendant

INFANT MORTALITY RATE

Newark, 1910-1916

Year	Deaths Under One Year	Infant Mortality Rate
1910	1,232	123
1911	1,062	113
1912	1,103	103
1913	999	93
1914	1,122	98
1915	935	85 3
1916	1,026	89 6

INFANT MORTALITY, BY ATTENDANT AT BIRTH.

ATTENDANT	Births	Number of Deaths		Infant Mortality Rate	
		Under One Year	Under One Month	Under One Year	Under One Month
Midwife	5,582	459	145	82.2	25.9
Physician	4,488	317	177	70.6	39.4
Hospital	1,374	145	88	105.1	64.1
Totals	11,446	1,026	436	89.6	38.0

NOTE Two births had no attendant

INFANT MORTALITY RATES BY NATIVITY OF MOTHER.

NATIVITY OF MOTHER	Rate	NATIVITY OF MOTHER	Rate
United States	90.5	Austria	57.7
White	88.2	Germany	1[illegible]
Colored	121.1	England	65.[illegible]
Italy	94.1	Ireland	81.[illegible]
Russia	67.5		

DEATHS OF INFANTS DURING FIRST MONTH OF SUPERVISED PRENATAL CASES, 1916

Living infants	426
Deaths during first month	3
Rate per 1,000 living births	7.0
City rate per 1,000 living births	38.0

STILL BIRTHS OF SUPERVISED PRENATAL CASES 1916

Number of mothers delivered	431
Still births	5
Rate per 1,000 living births	11.6
City rate per 1,000 living births	41.7

The figures for New York City for 1916 are as follows, viz.:

Rate of deaths during first month per 1,000 living births	13 7
City rate of deaths during first month per 1,000 living births	36 7
Rate of still births per 1,000 living births	57 2
City rate of still births per 1,000 living births	43 4

FEEDING OF BABIES DURING FIRST MONTH OF SUPERVISED PRENATAL CASES, 1916

		Per Cent
Infants living at the end of first month	423	100
Infants entirely breast fed at end of first month	419	99
Infants partially breast fed at end of first month	2	0 5
Infants entirely artificially fed at end of first month	2	0 5

MIDWIFERY.

The standards of midwifery practice are steadily improving, and our experience justifies our efforts to improve this practice by supervision, education and co operation. The continued supervision and education of midwives is considered an important phase of our prenatal work, as the influence of the midwife in certain neighborhoods extends beyond the period of the confinement and is very helpful to our efforts to change mothers' practices that are based upon tradition, racial custom and personal habit.

The following figures have been analyzed to show the status of the midwives in reference to ophthalmia, reporting of births, deaths of infants under one year of age and sepsis.

OPHTHALMIA. In 1916 18 cases were reported and careful investigation revealed the fact that only in five instances had a midwife been in attendance.

LATE BIRTH REPORTS. Of 750 late birth reports 180, or 24%, were sent in by midwives.

UNREPORTED BIRTHS. Of the 60 discovered unreported births 13, or 13%, were attended by midwives.

DEATHS OF INFANTS UNDER ONE MONTH. The record for the deaths of infants under one month was as follows viz.:

While the infant mortality rate for all infants under one month of age for the city was 38.0 per 1,000 births, the rate for those delivered by midwives was 23.0, by physicians 39.4 and in hospitals 64.1.

The above record is most commendable especially since the midwives attend more cases than private physicians and must work in the poorest, dirtiest and most ignorant families.

PRENATAL CARE.

As many expectant mothers as our nurses can supervise in addition to their other work in the district received advice and instruction in personal hygiene, preparation for the confinement, proper obstetrical care, and the importance of maternal nursing.

This work has prevented deaths of mothers and infants, increased the number of living and healthy births, and the number of breast fed. It is an important link in the chain of maternal and infant health. There is special need of prenatal clinics in several sections of the city to enable women, whose history or condition show the need of medical examination, to be examined by physicians, even though these women will be delivered by midwives.

Some cities assign special nurses to prenatal work alone, but we have felt that the best results are obtained by having the same nurse continue her instructions and care through pregnancy, early infancy and up to the pre school period, when the child passes to the Medical Inspection Department of the Board of Education or Board of Health.

Total number of mothers supervised		712
Number of mothers delivered		431
By midwives	363	
By physicians	47	
In hospitals	21	
Number of mothers who died		1
Living children at the end of one month		423
Still births	5	
Deaths of babies during first month	3	

Feeding—

Breast fed entirely at the end of the first month	419
Partially breast fed at the end of the first month	2
Entirely artificially fed at the end of the first month	2

OPHTHALMIA NEONATORUM IN 1916.

Eighteen cases of ophthalmia neonatorum were reported during 1916.

Thirty-three in 1915 and thirty in 1914.

Of the eighteen cases reported, eight had been attended by physicians, three in hospital and only five by midwives, although the midwives attended 20% more births than the doctors and four times as many as the hospitals In two cases we were unable to ascertain who the attendant had been.

Four of the eighteen cases were discovered through the nurses of the Division of Child Hygiene, who are instructed to send to the City Laboratory smears from all new born babies showing purulent discharges. These cases naturally were among the babies delivered by midwives or hospitals, as these are the only babies supervised by the Division.

Eleven of the eighteen cases lived in the four wards supervised by this Division.

The four cases discovered through the nurses of this Division were found among 2,073 supervised babies.

In all cases it was stated that silver nitrate had been used.

The ages of the babies at the time of report varied from 2 days to 3½ years.

Nine cases were reported between the second and third week of age.

RESULTS

Cured	16
Died	1
Family moved away	1

Of the sixteen cases all were cured in less than two months after the initial report.

TREATMENT.

In hospital	6
Entirely at home	10
At home and dispensary	1
Unknown	1

The results were the same, even as to length of time required for cure in all three methods of treatment. Our experience indicates that follow up work is essential to good results, irrespective of place of treatment.

The extended use of silver nitrate solution at birth, the prompt [illegible] of physicians by midwives whenever the babies have "sore eyes" after birth, the prompt reporting of ophthalmia and the close "follow-up" of all treatment until the final cure is effected has reduced the number of cases of ophthalmia neonatorum by 40% in 1916 over [illegible] and obtained a perfect result in all instances

FOUNDLINGS, BOARDING HOMES AND ILLEGITIMACY.

Every effort is made to prevent the separation of a nursing infant from its mother, and with the assistance of many departments and organizations we have succeeded in finding some other way to solve the problem of an unmarried mother, a deserted wife, a neglected or impoverished family than by placing a young infant in an institution or a boarding home.

When it is found impossible or inadvisable to keep the baby with its mother or relatives, then it is placed in a supervised licensed boarding home, of which a list is kept in this office. The control of the receiving and placing of infants is enabling us to reduce the number of foundlings to save the city the expense of maintaining institutions for them, and above all to preserve for these handicapped babies their birthright of mother-nurture and mother care.

BOARDING HOMES FOR INFANTS.

Licenses granted during 1916		46
Number of infants boarded out		43
Number of infants in boarding homes Dec. 31, 1916		40
Infants taken home by parents		1
Infants taken home by relatives		2
Adopted		3
Babies sick during 1916		6
Deaths		4
Requests for boarding homes for babies		55
Placed in licensed boarding homes	27	
Other solution suggested	28	

ANNUAL REPORT

OF THE

METEOROLOGIST

ANNUAL REPORT

OF THE

METEOROLOGIST

Dr. Charles V. Craster, Health Officer:

DEAR SIR—I take pleasure in submitting herewith the Meteorological Report for the year 1916.

The first six days of January were accompanied by a moderate temperature. On 11 days of the month rain or snow fell, but the aggregate amount of moisture was 1.4" of rain and 1.3" of snow, and was far below the normal for this month. There was a cold wave from the 14th until the 20th. The minimum temperature for the month was recorded on the 16th, 6° F. Fog prevailed every day but one from the 21st to the 31st. Ten days of the month were clear, 7 partly cloudy and the maximum temperature, 68°, occurred on the 27th of the month.

The month of February had only 8 clear days, 3 partly cloudy and 18 cloudy days. The total snowfall during this month amounted to 13.6" and fell on six days between the 9th and 20th. A lunar halo was noticed on Lincoln's Birthday, February 12th, another on February 17th. Washington's Birthday was clear and agreeable. The highest temperature of the month, 66°, occurred on February 1st, the lowest, 1° F., on February 14th.

Snow storms were prevalent during March upon 13 days of the month. The month showed a record of 2.8" of snow with only .07 of rain. The highest temperature was 67°, on March 3rd, and the lowest 4°, on March 18th.

The maximum temperature for April was 71°, on April 30th and the minimum 3[illegible], on April 9th. There were 13 days during which snow or rain fell, of which there were 7.33" of snow and 2.7" of rain. Lunar halos were noticed on April 15th and 16th. Good Friday, April 20th, was a mild and cloudy day. Easter Sunday, April 23rd, was a dark, dreary, unpleasant day.

The maximum temperature for May was 81°, which was noted on three days, May 28th, 29th and 30th. The Minimum temperature, 43°, was recorded on May 19th. The month was marked by 14 clear days, 8 partly cloudy and 9 cloudy days. On the 11th the highest wind velocity of the month was recorded, 48 miles per hour. 4.2" of rain fell during the month.

The month of June was unusually cold, rainy and lacking in sunshine. The average temperature to June 17th was 2.7° colder than normal. Twelve days were noted as having rain, 12 were clear and 6 partly clear. The highest temperature on June 28th, was 84°. The lowest, on June 10th, was 50°. There was 4.22" of rain.

The maximum temperature in the month of July was 95° on July 31st, the lowest temperature, 5[illegible], was recorded on two days, the 6th and 29th. On 20 days of this month temperatures were above 81°, and on 5 of these 92° and above. The total rainfall was 3.76".

The highest temperature recorded for August was 96°, on the 21st, the lowest was 5[illegible], on August 29th. Rainfall for the month was slight, 2.7", and was far below normal. There were 17 clear days during this month, 6 partly cloudy and 8 days cloudy. Thunder storms on the 8th, 23rd and 27th.

The total rainfall for September amounted to 3.26", which fell on 8 days of the month. The maximum temperature was 92°, on September 8th, the minimum 42°, on

September 30th, and the first frost in the fall was recorded on September 17th.

October was distinguished by exceptionally fine weather Only four of its days were rainy, the rainfall of which amounted to 1 14", which was far below the normal. There was fog on 3 days The highest temperature was recorded on October 9th, 86°, and the lowest on October 15th, 37°.

In November the rainfall was again far below normal, only 01" having fallen. There were 17 clear days and 13 cloudy days The highest temperature of November was on the 9th, 70°, the lowest temperature on the 25th and 26th, 25°.

December had 16 clear days to its credit, 2 partly cloudy days and 13 cloudy days The total rainfall and snowfall registered was 5 12". Christmas Day was a cold, dreary day. The highest temperature for the month was 63°, on December 5th, and the lowest on December 20th, 15°

CHARACTER OF THE DAYS OF 1916.

MONTH	Clear	Partly Cloudy	Cloudy	Days in which precipitation occurred
January	10	7	14	11
February	8	3	18	13
March	7	9	15	14
April	8	8	14	13
May	14	8	9	15
June	12	6	12	12
July	7	6	18	12
August	17	6	8	4
September	17	7	6	7
October	20	1	10	3
November	17		13	6
December	16	2	13	13
Totals	153	63	150	66

MISCELLANEOUS INCIDENTS OF YEAR 1916

MONTH	BAROMETER			Average Direction of Wind	Humidity Average	Per Cent. of Sunshine
	Highest	Lowest	Mean			
January	30.53	29.70	30.12	West	66	49
February	30.47	29.19	29.83	West	69	34
March	30.20	29.30	29.75	North	68	44
April	30.20	29.44	29.82	West	67	44
May	30.35	29.49	29.86	Northwest	68	56
June	30.06	29.70	29.88	Southeast	72	49
July	30.25	29.65	29.95	South	71	38
August	30.19	29.67	29.93	West	58	66
September	30.37	29.73	30.05	West	57	69
October	30.11	29.69	30.02	North	58	70
November	30.40	29.35	29.88	West	59	59
December	30.43	29.18	29.81	West	62	52

NOTE Annual mean barometer, 29.91 Prevailing direction of the wind, west Highest barometer recorded for 1916, Jan. 21, 30.53 Lowest barometer recorded for 1916, Dec. 22, 29.18

EXCEEDINGLY HOT OR COLD DAYS.

Average number when temperature fell to 32° or below.

MONTH	1892 to 1916	1916
January	24	21
February	23	27
March	16	24
April	3	2
October	1	
November	9	10
December	20	22
Totals	96	106

Average number when temperature rose to 90° or above.

MONTH	1892 to 1916	1916
May	1	
June	3	
July	6	5
August	3	6
September	1	1
October	1	
Totals	15	12

PRECIPITATION (IN INCHES).

MONTH	Rain and Melted Snow			Total Snow Unmelted	
	Period 1843-92	Period 1892 16	Year 1916	Period 1892 16	Year 1916
January	3 65		1 14	9 19	1 30
February	3 60		4 13	3.77	13.60
March	3 81		2.38	6 46	22 80
April	3.58		3 40	6.96	7 00
May	3.97		4 02		
June	3 57		4 22		
July	4.28		3.76		
August	5 07		27		
September	3.75		3 66		
October	3 58		1.14	2 30	
November	3 63		1 81	2 30	
December	3 63		5.12	6 09	18.00
Totals	46 07		35.05	37 37	62 70

NOTE—One inch of melted snow averages one-tenth of an inch of rain.

TEMPERATURE IN FAHRENHEIT DEGREES

MONTH	Mean Temperature (monthly)			Maximum Recorded		Minimum Recorded	
	1843 to 1892	1892 to 1916	1916	1892 to 1916	1916	1892 to 1916	1916
January	29	29 8	33 8	66	68	16	6
February	31	27 9	26 6	67	59	9	1
March	38	39 1	39 6	83	67	5	4
April	49	51 6	47 6	94	71	22	30
May	59	61 2	61 0	97	81	34	43
June	69	68 2	68 2	99	84	45	50
July	74	74 1	74 4	102	95	49	59
August	72	72 8	72 5	98	96	50	55
September	65	66 1	65 8	98	92	34	41
October	53	54 5	56 5	89	86	27	37
November	43	43 5	43 9	76	70	15	25
December	33	32 1	33 4	65	63	2	15

NOTE. Highest temperature of the year 96° August 21 Lowest temperature of the year, 1°, February 14 Annual mean, 1843-1892, 53°, 1892-1916, 51.5°; 1916, 51.2°.

Respectfully submitted,

WILLIAM WIENER,

Meteorologist.

Special Tables of Vital Statistics

FOR 1916

GENERAL TABLE NO. 1.

Deaths from all causes, not including non-resident or unknown, deaths, by wards, age and sex, including deaths in City Hospital and the Sanatoria at Soho and Verona, New Jersey.

AGES	1st Ward	2nd Ward	3rd Ward	4th Ward	5th Ward	6th Ward	7th Ward	8th Ward	9th Ward	10th Ward	11th Ward	12th Ward	13th Ward	14th Ward	15th Ward	16th Ward	17th Ward	Total
Under 1 year—																		
Males	68	14	51	19		25	3	5		15	4	1	5	6	5	7		251
Females	35	19	40	9	4	5	7	5	1	4	5	5	5				4	144
Between 1 and 4—																		
Males	52	13	40	8	4	1	2						3	4	4	14	4	
Females	41	8	49	8				5				3				2	6	
Between 5 and 9—																		
Males	2	4	7	1			3		1		5	1	2					
Females	6	1	10	2	5		4				3	1	4	5	4		3	
Between 10 and 14—																		
Males	6	3	2		4					5		3	3				4	
Females	3	6	5		4	4	5			5	1	3			5	2	11	
Between																		
Males	2	5	7	3		3			1	4	1	5		3	1	3	3	
Females	14	4	7	1	5	5	2	4		1	5	3	6	1		4	1	
Between 20 and 24																		
Males	8	7	10	4		4	3				4	2		2	4		3	
Females	7	6	5	7	4	5	3	3		4		3	3	4		3		
Between 25 and 29—																		
Males	10	14	8	10	4	4	4		4	4			1	4	3			
Females	5	5	8	4	4	5	6			11		4	3	1		4	8	

GENERAL TABLE NO. 1—Continued.

Deaths from all causes not including non-resident or unknown deaths by wards age and sex including deaths in City Hospital and the Sanatoriums at Soho and Verona New Jersey

AGES	1st Ward	2nd Ward	3rd Ward	4th Ward	5th Ward	6th Ward	7th Ward	8th Ward	9th Ward	10th Ward	11th Ward	12th Ward	13th Ward	14th Ward	15th Ward	16th Ward	Total
Between 30 and 34																	
Males	11	8	12	8	11	11	9	13	11	11	4	10	12	7	4	5	147
Females	14	11	6	7	6	6	3	3	4	4	8	14	2	7	4	5	104
Between 35 and 39																	
Males	10	18	11	15	10	11	10	11	8	9	3	17	10	17	5	6	171
Females	9	7	9	8	4	5	5	8	3	3	1	11	17	12	9	7	118
Between 40 and 44—																	
Males	11	21	19	21	16	9	8	9	10	7	6	19	19	23	12	12	222
Females	17	7	4					6	6	6	3	12	1	1	4	1	117
Between 45 and 49—																	
Males	14	17	19	32	17	9	11	6	14	5	5	12	9	16	8	14	208
Females	6	8	13	6	9	8	7	7	7	4	9	15	12	8	14	6	139
Between 50 and 54																	
Males	7	7	4	36	14	10	11	8	12	7	15	20	16	11	14	12	247
Females	6	4	10	2	4	8	7	9	8	6	12	5	11	9	12	12	125
Between 55 and 59—																	
Males	19	25	17	17	5	12	12	16	10	12	9	15	19	14	7	17	219
Females	6		14	7	6	13	7		16	8	13	11	8	16	7	1	107
Between 60 and 64																	
Males	16	28	11	9	7	7	8	12	22	13	9	6	17	30	12	1	199
Females	13	14	9	6	9	5	10	14	13	4	9	6	11	13	10	13	159

GENERAL TABLE NO. 1 Continued.

Deaths from all causes, not including non-resident or unknown deaths, by wards, age and sex, including deaths in City Hospital and the Sanatoriums at Soho and Verona, New Jersey.

Ages	1st Ward	2nd Ward	3rd Ward	4th Ward	5th Ward	6th Ward	7th Ward	8th Ward	9th Ward	10th Ward	11th Ward	12th Ward	13th Ward	14th Ward	15th Ward	16th Ward	Total
Between 65 and 69—																	
Males	12	9	10	14	7	8	8	13	7	7	11	12	17	12	8	20	175
Females	15	3	14	8	14	9	10	10	14	15	15	8	13	9	9	11	181
Between 70 and 74																	
Males	4	6	6	4	6	6	5	11	9	5	11	6	8	9	2	5	106
Females	9	10	10	2	6	12	5	21	17	4	12	3	15	10	11	17	164
Between 75 and 79																	
Males	2	4	2	2	3	4	2	4	10	3	12	4	11	13	4	8	93
Females	8	1	11	3	6	8	6	11	20	6	12	8	16	4	5	18	138
Between 80 and 84—																	
Males	2	2	3	4	6	1	1	4	9	2	5	—	6	3	2	2	60
Females	6	6	6	3	2	2	3	12	12	2	12	2	4	8	—	5	85
Between 85 and 89—																	
Males	—	3	—	2	1	1	—	2	2	2	2	1	2	—	2	4	24
Females	4	3		1	1	3	1	10	3	1	7	3	2	4	—	3	45
Ninety and over—																	
Males	1	—	—	—	—	—	—	1	2	1	2	—	—	—	—	—	7
Females	2		3		2	2		4	1		4		1	1		1	21
Totals	464	380	419	280	464	282	291	488	308	308	976	381	468	378	282	362	5981
Males	246	218	198	149	297	144	158	194	146	148	430	221	304	265	156	140	3298
Females	218	162	221	131	167	138	133	294	162	160	546	160	214	231	129	222	2683

Total Deaths and Death Rates per Thousand and Deaths and Death Rates from Pulmonary and Other Forms of Tuberculosis Since 1900.

YEAR	Total Deaths	Total Death Rate per M.	Total Deaths Pulmonary Tubere.	Death Rate Pulmonary Tubere.	Total Deaths All Forms Tubere.	Death Rate All Forms Tubere. per M
1900	5 0 6	20.34	603	2.45	676	2.74
1 0 1	4 8 6	19 22	581	2.32	630	2.52
19 2	1,91	19.38	556	2.18	660	2.59
190 ,	4 9 >	18.50	626	2.35	718	2.70
190 4	5,0 8	19.77	651	2.39	775	2.84
19 5	5 02	17.74	647	2.28	781	2.75
190	5,551	19 14	685	2 36	851	2.93
190 ,	5 724	1 0 8	0 5	2.28	797	2 65
190 8	5 20	1, 0	0 8	2 0	795	2.60
190	5,52	1 , ,	596	1 .2	76	2 45
1910	5 784	16.61	681	1 90	812	2 10
1911	5 1 3,	17 16	58	1 66	0	2 01
191	5 422	1 0	5 6	1, 7	896	1.61
1913	5,56 _	14.63	631	1.66	733	1.93
1914	5 809	14.70	583	1.47	676	1.71
191	5 58 _	14.03	687	1.83	808	2.12
1916	6 57	16.50	685	1.77	783	2.03

Deaths from All Forms of Tuberculosis Arranged by Months, for the Year 1916.

MONTH	PULMONARY			OTHER FORMS			Grand Totals
	Male	Female	Total	Male	Female	Total	
January	44	19	63	3	3	6	69
February	49	24	73	4	3	7	80
March	54	26	80	7	5	12	92
April	45	27	72	7	7	14	86
May	40	17	57	7	7	14	71
June	31	17	48	5	3	8	56
July	41	16	57	4	2	6	63
August	32	17	49	1	3	4	53
September	27	14	41	3	4	7	48
October	30	12	42	3	3	6	48
November	36	13	49	3	5	8	57
December	36	18	54	5	1	6	60
Totals	465	220	685	52	46	98	783

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AGE AND COLOR

FIRST WARD.

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	33	441	474	256	218	103	5	4	5	17	51	82	80	67
Infantile Paralysis		17	17	12	5	5	5	6	16	1				
Typhoid Fever		1	1		1						1			
Malaria	1		1	1									1	
Smallpox														
Measles		26	26	14	12	6	11	8	25		1			
Scarlet Fever		1	1		1			1	1					
Whooping Cough		4	4	2	2		2	2	4					
Diphtheria		11	11	5	6	1	3	4	8	3				
Influenza		1	1		1								1	
Epidemic Meningitis (Cerebro Spinal)		1	1	1									1	
Other Epidemic Diseases														
Tuberculosis of Lungs (Consumption)	6	46	52	27	25					2	17	21	11	1
Tuberculous Meningitis		8	8	4	4	3	3	1	1			1		
Other Tuberculosis		4	4	3	1			1	1			2		1
Cancer, Malignant Tumor		21	21	6	15						1	3	9	8
Simple Meningitis		3	3	2	1	1		1	2				1	
Apoplexy, Softening of the Brain		20	20	11								3	9	8
Organic Heart Diseases	4	28	32	15	17			1	1	3	1	9	6	12
Bronchitis		11	11	6	5	8	2		10				1	
Pneumonia, Lobar	3	33	36	22	14	7	8	1	16		1	8	9	2
Pneumonia, Broncho	1	25	26	15	11	5	10	3	18		1	2	1	4
Other Respiratory Diseases		13	13	5	8		2	1	3		1	3	1	5
Diseases of the Stomach (Cancer excepted)		5	5	4	1	2		1	3					2
Diarrhoea, Diseases (under 5 years)	1	32	33	23	10	25	5	3	33					
Appendicitis and Typhlitis	1	2	3	1	2					1		2		
Hernia, Intestinal Obstruction		2	2	2		2			2					
Cirrhosis of Liver		4	4	3	1								2	2
Bright's Disease and Nephritis	5	25	30	17	13					1	1	7	14	7
Diseases of Women not Cancer	2	1	3		3						1	2		
Puerperal Septicaemia		2	2		2						1	1		
Other Puerperal Diseases		3	3		3						1	2		
Congenital Debility and Malformation	6	30	36	24	12	36			36					
Old Age	1	10	11	4	7									11
Accident	1	12	13	10	3			5	5	4	1	1	2	
Homicide		2	2	1	1							1	1	
Suicide		2	2	2								1	1	
Ill-defined Causes														
All Other Causes	1	35	36	14	22	2	1	3	6	2	2	11	8	7

MORTALITY FROM PRINCIPAL CAUSES OF DEATH BY SEX AGE AND COLOR

SECOND WARD

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and under 2	2 and under 5	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		1	1		1								1
Typhoid Fever	1		1	1							1		
Malaria													
Smallpox													
Measles		2	2					1					
Scarlet Fever													
Whooping Cough		1	1		1	1							
Diphtheria		2	2		2		1	1	2				
[illegible]		4	4	0	0							1	[illegible]
[illegible]													
Other Epidemic Diseases													
[illegible]	5	50	55	43	12					6	31	16	2
[illegible]	2	3	5	3	2	2			1			1	1
[illegible]	1	3	4	3	1		1		1		1	2	
[illegible]		12	12	[illegible]	[illegible]						[illegible]	[illegible]	[illegible]
[illegible]	1	2	3	1	2		1	1	2	1		[illegible]	[illegible]
Apoplexy, Softening of the Brain	3	17	20	13	7						3	9	8
Organic Heart Diseases	4	24	28	16	12				1		9	13	5
[illegible]		6	6	4	2	2	1		3				3
Pneumonia, Lobar	9	30	39	28	11	1		1	2	1	3	11	16	6
[illegible]	3	8	11	3	8	2	3	1	6		1	1	2	1
Other Respiratory Diseases	1	5	6									1	4	
Diseases of the Stomach (Cancer excepted)	1	1	2		2					2				
Diarrhoeal Diseases (under 5 years)	1	4	5	1	4	4			5					
Appendicitis and Typhlitis	1	5	6		6					2	2	2		
Hernia, Intestinal Obstruction														
Cirrhosis of Liver		7	7	7	0							1	6	
Bright's Disease and Nephritis	7	38	45	27	18					1	13	14	13	
Diseases of Women (not Cancer)		5	5		5					1	2	1	1	
Puerperal Septicaemia	1		1		1						1			
Other Puerperal Diseases		1	1		1						1			
[illegible]		15	15		5	5			15					
Old Age		1	1		1								1	
Accident	1	12	13	9	4				1	1	1	1	1	
Homicide	1		1	1							1			
Suicide		4	4							1	3		1	
Undefined Causes														
All Other Causes		9	9			1			3	3	1	1	4	

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AGE AND COLOR

THIRD WARD.

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	*67	424	491	259	232	91	48	40	179	23	28	78	113	66
Infantile Paralysis	3	47	50	23	27	6	20	17	43	6	1			
Typhoid Fever	1	1	2	1	1							1		
Malaria														
Smallpox														
Measles	2	4	6	3	3	1	3	2	6					
Scarlet Fever														
Whooping Cough		3	3		3	1			3					
Diphtheria		3	3	2	1	1	1	1	3					
Influenza														
Epidemic Meningitis (Cerebro Spinal)		2	2	1	1	1			1	1			1	
Other Epidemic Diseases														
Tuberculosis of Lungs (Consumption)		43	53	36	17			1	1	1	2	11	2	
Tuberculous Meningitis	1	5	6	3	3	3			3	3				
Other Tuberculous Diseases		4	4	2	2		1	1	2		1	1		
Cancer, Malignant Tumor	2	23	25		13							8	17	5
Simple Malignants	2	2	4	1	3	1			1		1	1		
Atrophy, Softening of the Brain	11	17	28	10	18							1	9	10
Organic Heart Diseases	2	67	34	18	21	1			1	1	1	11	13	12
Bronchitis	1	7	8	3	5	3			3					3
Pneumonia, Lobar	9	33	42	27	15		4	2	11	1	3		13	5
Pneumonia, Broncho	4	13	16		7	6	5	3	14		1			2
Other Respiratory Diseases	1	19	20	8	12	3	1	1	5	1		1	7	6
Diseases of the Stomach (Cancer excepted)		4	4	3	1							2	2	
Diarrhoeal Diseases (under 5 years)	4	17	9	9	9	15	6		21					
Appendicitis and Typhlitis	1	5	6	4	2					1		2	2	
Hernia, Intestinal Obstruction		1	2	1	1								2	
Cirrhosis of Liver		1	1	1									1	
Bright's Disease and Nephritis	4	37	41	18	23	3		1	4	2	2	6	1	8
Diseases of Women (not Cancer)		3	3		3							1	2	
Puerperal Septicaemia		1	1		1						1			
Other Puerperal Diseases														
Congenital Debility and Malformation	8	30	38	24	14	13	1		14					
Old Age		7	7	5	2									
Accident			13	9	4	1	1	4	6	4		2	7	2
Other Causes		1	1		1							1		
Suicide		5	5	4	1						2	2	1	
Ill-defined Causes														
All Other Causes	4	28	32	13	19	5	4	1	10		2	7	9	4

* Two yellow.
† One yellow.

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX, AGE AND COLOR

FOURTH WARD

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	*24	262	286	199	87	28	8	9	45	4	15	75	101	43
[illegible] Paralysis	1	4	5	5		4		0	0					
[illegible] Fever														
[illegible]														
[illegible]														
[illegible]		2	2	2		1	1							
[illegible]														
[illegible]		1	1	1		1								
[illegible]			1	1		1			1					
[illegible]		1	1		1									1
Epidemic Meningitis (Cerebro Spinal)														
[illegible] Diseases														
[illegible]	†6	49	55	45	10						9	23	21	2
[illegible] Meningitis		1	1	1				1	1					
[illegible]	2	1	3	1	2			1	1			1	1	
[illegible]		11	11	5	6									3
[illegible] Meningitis		3	3	3			1		1			1	1	
Apoplexy Softening of the Brain		15	15	9	6							7	6	1
Organic Heart Disease		25	25	17	8	1			1		1	5	10	8
Bronchitis		3	3	1	2	1			1	1				1
Pneumonia, Lobar	†5	25	30	22	8	2	1		3		1	12	12	2
[illegible]ia, Broncho	1	5	6	3	3			2	2				2	2
Other Respiratory Diseases		4	4	2	2					1		2	1	
[illegible] (Stomach, Cancer excepted)														
[illegible] Diseases (under 5 years)		6		4			1							
Appendicitis and Typhlitis														
Hernia, Intestinal Obstruction														
Cirrhosis of Liver		4	4		1								1	
Bright's Disease and Nephritis	†1	9	5	1	5								4	2
Diseases of Women (not Cancer)														
Puerperal Septicaemia														
Other Puerperal Diseases		1			1						1			
Congenital Debility and Malformation		5	5			4			4					
Old Age		4	4		1									4
Accident	†1	15	17				1		1		1	6	7	2
[illegible]cide														
Suicide				1								1		
Ill-defined Causes														
All Other Causes	1			1	17			1	4			8	4	4

* Four yellow
† One yellow

MORTALITY FROM PRINCIPAL CAUSES OF DEATH BY SEX, AGE AND COLOR

FIFTH WARD

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	4	400	404	225	179	106	34	37	177				
Infantile Paralysis	1	30	31	21	10	5	10	14	29	1			
Typhoid Fever		2		2						1	1		
Malaria													
Smallpox													
Measles		4	4	2	2	1	2	1					
Scarlet Fever													
Whooping Cough		2	2		2	2			2				
Diphtheria		3	3	1	2			1					
Influenza		7	7	3	4			1	1	1	2	1	1
Diseases of Meninges (Cerebro Spinal)		1	1		1					1			
Other Nervous Diseases													
Tuberculosis of Lungs (Consumption)		46	46	27	19						3	1	1
Tuberculous Meningitis		1	1	1		1			1				
Other Tuberculosis													
Cancer and Malignant Tumor		15	15	5	10					1	4	7	3
Simple Meningitis		6	6	4	2	1	1	3	6			1	
Apoplexy, Softening of the Brain	1	11	11	3	8						1	3	7
Organic Heart Diseases		1		1			1	1	3	2	3	3	3
Bronchitis		9	9		9	6	2					1	1
Pneumonia, Lobar	1	24	24	14	10	5	1	1	7	1	1	4	5
Pneumonia, Bronchial		4	4	3	1	1	1	1	2			1	3
Other Respiratory Diseases		1	1	1									
Diseases of the Stomach (Cancer excepted)		7	7	3	4	1	1	2	1		2	3	4
Diarrheal Diseases (under 5 years)		46	46	25	21	7	7	4				1	
Appendicitis and Typhlitis		2	2	2									
Hernia, Intestinal Obstruction		1	1							1	1		
Cirrhosis of Liver		2	2	2								1	
Bright's Disease and Nephritis	1	41	42	22	20			1	1			2	
Diseases of Women (not Cancer)		2	2		2					1	1		
Puerperal Septicaemia		2	2		2						2		
Other Puerperal Diseases		2	2		2						2		
Congenital Debility and Malformation		33	33	16	17				3				
Old Age		8	8	4	4								8
Accident		25	25	22	3	2	2	3	7	2	2	7	7
Homicide													
Suicide		2	2	2								2	
Ill-defined Causes													
All Other Causes		11	11	10	1		1	1	3		4	3	1

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX, AGE AND COLOR

SIXTH WARD.

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and under 2	2 and under 5	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	1	[illegible]	[illegible]	[illegible]	[illegible]	37	11	16	63	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Infantile Paralysis		[illegible]	[illegible]	[illegible]	[illegible]		5	9	14	[illegible]				
Typhoid Fever			[illegible]								1			
Malaria														
[illegible]														
[illegible]														
[illegible]				1				1	1					
[illegible] Cough			4		1	1	3		4					
[illegible]														
[illegible]														
[illegible] Meningitis [illegible]		1	1	1				1	1					
[illegible]														
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]			1	1		3	[illegible]	1	1
[illegible]														
[illegible]		1	1	1								1		
[illegible]		[illegible]	[illegible]	6	3							1	[illegible]	[illegible]
Simple Meningitis														
Apoplexy, Softening of the Brain		[illegible]	[illegible]	[illegible]	[illegible]								10	[illegible]
Organic Heart Diseases		[illegible]	[illegible]	[illegible]	[illegible]	1			1	[illegible]	2	6	[illegible]	[illegible]
Bronchitis		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]				[illegible]	[illegible]
Pneumonia, Lobar			[illegible]	[illegible]	[illegible]	[illegible]			1		1	[illegible]	[illegible]	[illegible]
Pneumonia, Broncho [illegible]		10	10	6	4	[illegible]	1	1				[illegible]		[illegible]
Other Respiratory Diseases [illegible]	1	11	12	6	6							[illegible]	[illegible]	[illegible]
Diseases of the Stomach (Cancer excepted)		1	1		1							[illegible]		
Diarrhoeal Diseases (under 5 years) [illegible]		8	8	5	3	[illegible]	1	1	[illegible]					
Appendicitis and Typhlitis [illegible]		1	1	1									1	
Hernia, Intestinal Obstruction [illegible]		2	2	[illegible]	2		1		1			1		
Diseases of Liver [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	
[illegible] s Disease and Nephritis [illegible]	1	32	33	18	15	[illegible]	[illegible]	[illegible]	[illegible]	1	1	9	14	8
Diseases of Women [illegible]		[illegible]	[illegible]		[illegible]						1	1		
Puerperal Septicaemia		1	1		1		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	
Other Puerperal Diseases		1	1	[illegible]	1		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	
Congenital Debility and Malformation [illegible]	2	20	22	15	[illegible]	22	[illegible]	[illegible]	22	[illegible]	[illegible]	[illegible]	[illegible]	
Old Age [illegible]	[illegible]	3	3		3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3
Accident	2	6	8	5	3	1	[illegible]	1	2		2	3	1	
Homicide														
Suicide		1	1	1										1
[illegible] Causes														
All Other Causes [illegible]		[illegible]	[illegible]	[illegible]						1	[illegible]		[illegible]	[illegible]

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX, AGE AND COLOR

SEVENTH WARD.

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	4	246	131	85	133	61	22	19	102	14	9	53	72	41
Infantile Paralysis	1	24	15	10	12	5		10	34	1				
Typhoid Fever														
Malaria														
Smallpox														
Measles	1	2	3	1	2	1	1	1	3					
Scarlet Fever														
Whooping Cough	1	2	3	1	2	3			3					
Diphtheria		3	3	2	1		1	1	2	1				
Influenza	1	3	4	2	3		1	1	2		1			1
Epidemic Meningitis (Cerebro Spinal)														
Other Epidemic Diseases														
Tuberculosis of Lungs (Consumption)	8	31	39	26	13	3		1	4	3	2	21	11	2
Tuberculous Meningitis	1		1	1			1		1					
Other Tuberculosis		4	4	2	2					1	1		1	1
Cancer, Malignant Tumor		17	19	3	7							1	8	1
Simple Meningitis		1	1	1				1	1					
Apoplexy, Softening of the Brain	1	10	11	4	7							1	4	6
Organic Heart Diseases	4	26	30	17	13	3			3		2	5	12	8
Bronchitis	1	5	6		6	3	1		4					2
Pneumonia	3	11	16	11	5	4			4		1	7	3	1
Congestion, Lobar	5	6	11	8	3		3	3	9	1			1	
Pleurisy and Pleural Effusion		6	6	4	2							1	4	
Other Respiratory Diseases		2	2	1	1									
Diseases of the Stomach (Cancer excepted)														
Diarrhoea, Diseases (under 5 years	2	16	18	10	8	4	4	4	12					
Appendicitis and Typhlitis														
Hernia, Intestinal Obstruction		4	4	1						1			2	1
Cirrhosis of Liver														
Bright's Disease and Nephritis		37	41	25	16	1			1			6	18	17
Diseases of Women (not Cancer)		1	1		1							1		
Puerperal Septicaemia														
Other Puerperal Diseases			1		1							1		
Congenital Debility and Malformation	4	23	27	15	12	1			27					
Suicide				1										
Old Age		14	15	8	7	1	1	2	4		1	1	1	
Unknown														
Still-born		1	1	1								1		
Violent Causes														
All Other Causes		19	19	11	8					1		4	7	7

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX, AGE AND COLOR
EIGHTH WARD

CAUSES	Color		Sex		Under 1 Year	Under 2	Under 5	5 to 15 Years	15 to 25	25 to 45	45 to 65	65 and Over
	White	Colored	Males	Females								
Total, all causes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	98	14	17	65	82	[illegible]
Infantile Paralysis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	2			[illegible]	
Typhoid Fever	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]			1	1		
Malaria	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					[illegible]	
Smallpox	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]			[illegible]	
Measles	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8	1		1	[illegible]	
Scarlet Fever	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					[illegible]	
Whooping Cough	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	1	[illegible]		[illegible]	[illegible]	
Diphtheria	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	2		[illegible]	1	
Influenza	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				1		
Epidemic Meningitis (Cerebro Spinal)	1	1	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]		
Other Epidemic Diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]		
Diseases of Lungs (Consumption)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				12	[illegible]	[illegible]
Tuberculous Meningitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3			1		
Other Tuberculosis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				1	1	
Cancer, Malignant Tumor	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				4	20	[illegible]
Simple Meningitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					[illegible]	
Apoplexy, Softening of the Brain	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					10	[illegible]
Organic Heart Diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	9	[illegible]
Bronchitis	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2				[illegible]	[illegible]
Pneumonia Lobar	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	4	
Pneumonia Bronchial	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1			3	[illegible]
Other Respiratory Diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]			[illegible]
Diseases of the Stomach (Cancer excepted)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	1	[illegible]
Diarrhoeal Diseases (under 5 years)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	
Appendicitis and Typhlitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			1	[illegible]	1	
Hernia, Intestinal Obstruction	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					1	1
Cirrhosis of Liver	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				1	1	
Bright's Disease and Nephritis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			1	[illegible]	13	[illegible]
Diseases of Women (not Cancer)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	
Puerperal Septicaemia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					[illegible]	
Other Puerperal Diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				1		
Congenital Debility and Malformation	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	
Old Age	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					[illegible]	[illegible]
Accident	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4		6	1	[illegible]
Homicide	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]				1	[illegible]	
Suicide	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]				3	1	
Ill-defined Causes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
All Other Causes	[illegible]	24	[illegible]	[illegible]	1	[illegible]	3	1	2	5	6	6

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX, AGE AND COLOR

NINTH WARD.

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	31	337	[illegible]	[illegible]	[illegible]		1	[illegible]	[illegible]	17	15	[illegible]	[illegible]	[illegible]
Infantile Paralysis		22	22	[illegible]	7	[illegible]		[illegible]	[illegible]	[illegible]				
Typhoid Fever		1	1	1								1		
Malaria														
Smallpox														
Measles		1	1		1					1				
Scarlet Fever														
Whooping Cough														
Diphtheria		1	1	1						[illegible]				
Influenza	1	4	[illegible]		2	1			1				2	2
Epidemic Meningitis (Cerebro Spinal)	2				1			1	1			1		
Other Epidemic Diseases														
Tuberculosis of Lungs (Consumption)	3	7	[illegible]	[illegible]	8						2	16	12	
Tuberculous Meningitis		[illegible]	2	1	1			2	2					
Other Tuberculosis														
Cancer, Malignant Tumor	[illegible]	21	22	10	12							2	9	11
Simple Meningitis	1	3	4	2	2		1		1		1	2		
Apoplexy, Softening of the Brain	2	30	[illegible]	15	[illegible]							[illegible]	17	[illegible]
Organic Heart Diseases	1	[illegible]	[illegible]	11	18				[illegible]	3	1	[illegible]	[illegible]	1
Bronchitis			10	1	9	1	1		2				2	6
Pneumonia Lobar	4	[illegible]	33	15	15	2	2	1	5	2	3	6	11	[illegible]
Pneumonia Broncho		16	19	10	9	4			4			1	4	10
Other Respiratory Diseases		14	14	7	7		1		1			2	3	8
Diseases of the Stomach (Cancer excepted)		3	8	3								2	1	
Diarrhoea Diseases (Under 2 years)		3	4	3	1	3		1	4					
Appendicitis and Typhlitis														
Hernia, Intestinal Obstruction		1	1	1								1		
Cirrhosis of Liver		1	1		1								1	
Bright's Disease and Nephritis	4	42	46	21	25					2	1	4	19	[illegible]
Diseases of Women (not Cancer)		[illegible]	2		2							1	1	
Puerperal Septicemia														
Other Puerperal Diseases		1	1		1						1			
Congenital Debility and Malformation	1	[illegible]	[illegible]		[illegible]	[illegible]			[illegible]					
Old Age	1	[illegible]	[illegible]	[illegible]	4									
Accident	2	13	[illegible]	1	[illegible]			[illegible]	2	1	[illegible]	[illegible]	4	1
Homicide														
Suicide		3	3	1	2						1	1	1	
Ill defined Causes														
All Other Causes		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]					[illegible]	[illegible]	11

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX, AGE AND COLOR

TENTH WARD.

CAUSES	Col. ored	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	9	349	358	198	160	78	49	35	162	25	11	55	59	46
Infantile Paralysis		33	33	19	14	6	10	11	27	5	1			
Typhoid Fever		3	3	2	1			1	1		1	1		
Malaria														
Smallpox														
Measles		13	13	10	3	1	9	2	12	1				
Scarlet Fever		2	2	1	1			1	1	1				
Whooping Cough		1	1		1		1		1					
Diphtheria		7	7	5	2		2	4	6	1				
Influenza		1	1	1									1	
Epidemic Meningitis (Cerebro Spinal)		2	2		2					2				
Other Epidemic Diseases														
Tuberculosis of Lungs (Consumption)		29	29	18	11			1	1	3	5	14	5	1
Tuberculous Meningitis		6	6	4	2	2			5				1	
Other Tuberculosis		3	3	2	1					1		1	1	
Cancer, Malignant Tumor		7	7	5	2								5	2
Simple Meningitis		4	4	3	1		3		1					
Apoplexy, Softening of the Brain		9	9	3	6							2	5	2
Organic Heart Diseases	1	21	22	12	10	1		1	2	1	1	8	11	5
Bronchitis	1	13	14	7	7	2	2		11	1	1		1	1
Pneumonia, Lobar	2	30	32	15	17	5	5	2	12	1		8	8	3
Pneumonia, Broncho		19	19	12	7	6	7	8	16	1				2
Other Respiratory Diseases		9	9	7	2	1		1	2			4	2	1
Diseases of the Stomach (Cancer excepted)		2	2	1	1			1	1			1	1	
Diarrhoeal Diseases (under 5 years)		32	32	15	17	23	6	3	32					
Appendicitis and Typhlitis		2	2	1	1					1		1		
Hernia, Intestinal Obstruction		2	2		2					1		1		
Cirrhosis of Liver	1	2	3	3								1	1	1
Bright's Disease and Nephritis	4	24	28	17	11						2	1	7	13
Diseases of Women (not Cancer)														
Puerperal Septicaemia		1	1		1							1		
Other Puerperal Diseases														
Congenital Debility and Malformation		21	21	12	9	21			21					
Old Age														2
Accident		15	15	10	5		1	2	3	3	2	4	3	
Homicide		2	2	2						1		1		
Suicide		2	2	1	1							1	1	
Ill defined Causes														
All Other Causes		29	29	13	16	1	2	1	4	1		5	6	13

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX, AGE AND COLOR

ELEVENTH WARD.

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and 2 Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total all causes	13	263	276	130	146	24	5	10	39	7	12	32	51	105
Infantile Paralysis		3	3	1	2		1	1	2	1	—	—	—	—
Typhoid Fever														
Malaria														
Smallpox														
Measles		1	1	1				1	1				—	
Scarlet Fever														
Whooping Cough														
Diphtheria		1	1	1						1				
Influenza		4	4	2	2			1	1				1	2
Epidemic Meningitis (Cerebro Spinal)														
Other Epidemic Diseases		1	1	1							1			
Tuberculosis of Lungs (Consumption)	2	12	14	9	5						4	9	1	
Tuberculosis Meningitis	2	2	4	4		1		1	2		1		1	
Other Tuberculosis		3	3	1	2									
Cancer Malignant Tumor	2	18	20	6	14						1	1		1
Simple Meningitis													12	8
Apoplexy, Softening of the Brain		21	21	8	13									
Organic Heart Diseases		29	29	14	15			1	1	2	2	2	9	12
Bronchitis	1	9	10	5	5	1	1		2				7	15
Pneumonia Lobar	1	21	22	11	11		1		1	1	1	6	1	7
Pneumonia Broncho	2	5	7	6	1	2	1	2	5				7	6
Other Respiratory Diseases	1	4	5	1	4									2
Diseases of the Stomach (Cancer excepted)		3	3	2	1								4	1
Diarrheal Diseases (under 5 years)		3	3	2	1	2	1	—	2				1	2
Appendicitis and Typhlitis		1	1		1									
Hernia Intestinal Obstruction		3	3	1	2								1	
Cirrhosis of Liver		1	1	1									1	2
Bright's Disease and Nephritis		61	61	24	37			1	1	2		5	21	1
Diseases of Women not Cancer		2	2	—	2							1	1	32
Puerperal Septicemia		2	2	—	2							2		
Other Puerperal Diseases														
Congenital Debility and Malformation	1	15	16	10	6	16			16					
Old Age		3	3		3									3
Accident		9	9	7	2	1		1	2			2	2	3
Homicide														
Suicide		1	1	1										1
Undefined Causes														
All Other Causes	1	25	26	11	15	1		1	2		2	4	11	7

MORTALITY FROM PRINCIPAL CAUSES OF DEATH BY SEX, AGE AND COLOR

TWELFTH WARD.

CAUSES	Colored	White	Total	Male	Female	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	1	380	381	221	160	74	24	31	129	14	17	89	90	42
Infantile Paralysis		29	29	18	11	3	7	17	27	2				
[illegible]											1			
[illegible]														
[illegible]														
Measles		2	2	1	1		1	1	2					
[illegible]														
Whooping Cough		1	1	1										
Diphtheria		7	7	5	2	1	2	4	7					
[illegible]		1	1		1	1			1					
[illegible]		2	2	1	1	1			1		1			
[illegible]														
[illegible]		48	48	37	11			1	1		6	29	10	2
Tubercular Meningitis	1	4	5	3	2	1	1		2		1	1	1	
[illegible]		1	1	1									1	
Cancer, Malignant Tumor		16	16	7	9							1	12	3
Simple Meningitis		3	3	3		1	1		2			1		
Apoplexy, Softening of the Brain		11	11	4	7								5	6
Organic Heart Diseases		[illegible]	1		1					1	1	[illegible]		
Bronchitis		[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1				
Pneumonia, Lobar		29	29	15	14	2	2		4			14	8	3
Pneumonia, Broncho		20	20	11	9	12	2	2	16			1	1	2
Other Respiratory Diseases		7	7	5	2	1		1	2			1	3	1
Diseases of the Stomach (Cancer excepted)		4	4	3	1	1			1			2	1	
[illegible]		[illegible]							[illegible]					
Appendicitis and Typhlitis			[illegible]	[illegible]						[illegible]	1	[illegible]		
Hernia, Intestinal Obstruction		3	3	2	1							1		
Cirrhosis of Liver		6	6	4	2							[illegible]		
[illegible]		47	47	26	21							[illegible]	[illegible]	
[illegible]		4	4		4						1	[illegible]		1
[illegible]		1	1		1							[illegible]		
[illegible]														
[illegible]		23	23	15	8				[illegible]					
[illegible]		[illegible]	[illegible]											[illegible]
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	4	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]								[illegible]			
[illegible]														
[illegible]														
[illegible]		[illegible]		[illegible]										

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX, AGE AND COLOR

THIRTEENTH WARD.

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes		466	466	264	214	64	21	36	121	27	30	47	143	75
Infantile Paralysis		38	38	26	12	3	7	21	31	7				
Typhoid Fever		1	1		1					1				
Malaria														
Smallpox														
Measles		4	4	1	3		1	3	4					
Scarlet Fever														
Whooping Cough														
Diphtheria		5	5	1	4		1	2	3	2				
Influenza		3	3	2	1	2			2			1		
Epidemic Meningitis (Cerebro Spinal)		3	3	3			2		2			1		
Other Epidemic Diseases														
Tuberculosis of Lungs (Consumption)		57	57	34	23						14	30	1	
Tuberculous Meningitis		5	5	2	3	2	2		4	1				
Other Tuberculosis		2	2	1	1							1	1	
Cancer, Malignant Tumor		27	27	10	17						4	6	7	
Simple Meningitis														
Apoplexy, Softening of the Brain		22	22	11	11						1	2	9	1
Organic Heart Diseases		44	44	24	20	3			3	4	4	5	16	12
Bronchitis		7	7	3	4	3			3	1			1	
Pneumonia, Lobar	1	35	36	23	13	3	2	1	6		1	9	8	12
Pneumonia, Broncho		23	23	9	14	4	3	3	10	2			3	8
Other Respiratory Diseases		13	13	7	6			1	1			4	4	4
Diseases of the Stomach (Cancer excepted)		5	5	4	1							2		3
Diarrhoeal Diseases (under 5 years)		13	13	6	7	8	3	2	13					
Appendicitis and Typhlitis		6	6	4	2					2	1	1	2	
Hernia, Intestinal Obstruction		2	2		2								2	
Cirrhosis of Liver		3	3	3									2	1
Bright's Disease and Nephritis		46	46	28	18			1	1		2	12	14	17
Diseases of Women (not Cancer)		4	4		4						1	3		
Puerperal Septicaemia														
Other Puerperal Diseases														
Congenital Debility and Malformation		33	33	16	17	33			33					
Old Age		6	6	1	5									6
Accident		19	19	17	2	2		1	3	3	2	6	3	2
Homicide														
Suicide		3	3	3								1		
Ill-defined Causes														
All Other Causes		38	38	19	19			1	1	4	4	10	10	9

MORTALITY FROM PRINCIPAL CAUSES OF DEATH BY SEX, AGE AND COLOR.

FOURTEENTH WARD.

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	9	517	526	295	231	121	38	39	198	18	[illegible]	97	108	[illegible]
Infantile Paralysis	1	43	44	23	21	13	8	20	41	1	[illegible]			
Typhoid Fever	[illegible]	1	1	[illegible]	1	[illegible]	[illegible]	[illegible]			1			
Malaria	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Smallpox	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Measles	1	17	18	9	9	5	[illegible]	4	17	1				
[illegible]	[illegible]	1	1	1	[illegible]	[illegible]		1	1					
[illegible]		4	4	3	1	4			4					
[illegible]		1	1	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		1	1	[illegible]	1	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]
[illegible]		4	4	1	3	[illegible]	[illegible]	1	1	1	1	1	[illegible]	[illegible]
Other Epidemic Diseases		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	1	10	27	5	[illegible]
Tuberculous Meningitis	[illegible]	3	3	1	2	1	[illegible]	[illegible]	1	2	[illegible]	[illegible]	[illegible]	[illegible]
Other Tuberculosis	[illegible]	1	1	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]
Cancer, Malignant Tumor		30	30	13	17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	5	17	7
Simple Meningitis		1	1	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]
Apoplexy, Softening of the Brain		28	28	16	12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	11	15
Organic Heart Diseases	1	33	34	13	21	2	[illegible]	[illegible]	2	2	3	5	9	13
[illegible]	2	9	11	5	6	6	[illegible]	1	7	[illegible]	1	[illegible]	1	2
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	[illegible]	2	[illegible]	2	1	13	[illegible]	2
[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	1	16	[illegible]	1	[illegible]	[illegible]	6
Other Respiratory Diseases	[illegible]	22	22	15	7	2	1	1	4	[illegible]	2	4	6	6
Diseases of the Stomach (Cancer excepted)	[illegible]	2	2	1	1	1	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	1
[illegible]	[illegible]	1	[illegible]	[illegible]	4	[illegible]	3	3	32	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	6	1	5	1	[illegible]	1	2	1	2	1	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	6	6	5	1	1	[illegible]	[illegible]	1	[illegible]	[illegible]	1	2	2
[illegible]	[illegible]	46	49	24	25	1	[illegible]	[illegible]	1	1	1	12	22	12
Diseases of Women [illegible] Cancer	[illegible]	4	4	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	2	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	1	1	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	41	41	29	12	41	[illegible]	[illegible]	41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Old Age	[illegible]	3	3	2	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	2
Accident	[illegible]	19	19	13	6	1	[illegible]	1	2	4	1	7	4	1
Homicide	[illegible]	3	3	1	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	2	[illegible]	[illegible]
Suicide		6	6	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	1	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
All Other Causes		37	37	20	17	4	2	3	9	1	1	9	14	3

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX, AGE AND COLOR

FIFTEENTH WARD

CAUSES	Col ored	White	Total Deaths	Males	Fe males	Un der 1 Year	1 and Un- der 2	2 and Un- der 5	Un- der 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total all causes	27	258	285	156	129	43	21	12	76	15	16	46	86	46
Infantile Paralysis		15	15	12	3	1	4	6	11	3		1		
Typhoid Fever		2	2	1	1							1		1
Malaria														
Smallpox														
Measles		10	10	6	4	3	4	2	9	1				
Scarlet Fever														
Whooping Cough														
Diphtheria		2	2	1	1	1			1	1				
Influenza		4	4	2	2								1	3
Epidemic Meningitis (Cerebro Spinal)		1	1	1						1				
Other Epidemic Diseases														
Tuberculosis of Lungs (Consumption)	4	32	36	22	14			1	1	1	6	15	11	2
Tuberculosis Meningitis		3	3	2	1		1		1	2				
Other Tuberculosis		2	2	1	1							2		
Cancer, Malignant Tumor	1	15	16	4	12							1	11	4
Simple Malignants														
Diseases of Spinal Cord or the Brain	3	14	17	8	9							1	11	5
Organic Heart Diseases	1	27	28	15	13		1		1	3	4	3	6	11
Aneurisms	1	8	9	5	4	4	1		5				3	1
Pneumonia, Lobar	3	19	22	9	13		3		6			4	7	5
Pneumonia, Broncho	1	7	8	5	3	3	2	1	6				1	1
Other Respiratory Diseases		5	5	3	2		1		1			2	2	
Diseases of the Stomach (Cancer excepted		3	3	3		1			1			1	1	
Diarrhoeal Diseases (under 5 years)		7	10	5	5	6	3	1	10					
Appendicitis and Typhlitis	1	1	2	1	1					1	1			
Hernia, Intestinal Obstruction		4	4	1	3								1	3
Cirrhosis of Liver		2	2	1	1							1	1	
Bright's Disease and Nephritis	3	27	30	29	1						1	8	17	4
Diseases of Women (not Cancer)	2	2	4		4						1	1	1	1
Puerperal Septicaemia		1	1		1						1			
Other Puerperal Diseases														
Congenital Debility and Malformation		21	21	13	8	2			21					
Old Age		2	4	2										2
Accident		8	8	4	4			1	1	2	1	1	3	
Homicide	1		1		1								1	
Suicide		2	3	1	1							1	1	
Ill defined Causes														
All Other Causes	3	12	15	9	6		1		1		1	3	7	3

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX, AGE AND COLOR

SIXTEENTH WARD.

CAUSES	Color not	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	4	358	362	190	[illegible]	[illegible]		[illegible]	[illegible]	4	9	51	98	98
Infantile Paralysis		4	4	1+	10		3	2	14	1				
Typhoid Fever		3	3	3							1	2		
Malaria														
Smallpox														
Measles														
Scarlet Fever		1	1		1			1	1					
Whooping Cough														
Diphtheria		3	3		3		2		2	1				
Influenza		3	3	1	2							1		2
Epidemic Meningitis (Cerebro Spinal)		1	1		1	1			1					
Other Epidemic Diseases														
Tuberculosis of Lungs (Consumption		34	[illegible]	[illegible]	9						4	19	9	1
Tuberculous Meningitis			1	1		1			1					
Other Tuberculosis														
Cancer, Malignant Tumor	1	26	27	10	17							1	16	10
Simple Meningitis	1	3	4	4		2			2	1			1	
Apoplexy, Softening of the Brain		[illegible]	[illegible]	[illegible]	14							1	3	
Organic Heart Diseases		25	25	15	10	1			1	3	2	2	8	9
Bronchitis		4	4	2	2			1	1				1	
Pneumonia, Lobar	1	33	34	12	22		3	1	4	1	2	6	14	7
Pneumonia, Bronchial		14	14	6	8	2	3	1	6	1	1		2	4
Other Respiratory Diseases		12	12	5	7					1			5	6
Diseases of the Stomach (Cancer excepted)		6	6	4	2		1		1	1	1		1	2
Diarrhoeal Diseases under 5 years		5	5	3	2	4	1		5					
Appendicitis and Typhlitis		8	8	3	5					1	3	2	2	
Hernia, Intestinal Obstruction		2	2	1	1					1				1
Cirrhosis of Liver		3	3	1	2							1	2	
Bright's Disease and Nephritis		41	41	25	16							6	15	17
Diseases of Women (not Cancer)		1	1		1							1		
Puerperal Septicaemia														
Other Puerperal Diseases		1	1		1							1		
Congenital Debility and Malformation		26	26	15	11	26			26					
Old Age		8	8	2	6									8
Accident		8	8	5	3			1	1	3	1	2		1
Homicide														
Suicide		7	7	7							2	2	2	1
Ill defined Causes														
All Other Causes	1	92	93	18	15		9	1	8		3	9	11	8

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX, AGE AND COLOR

NON RESIDENTS

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	12	344	356	199	157	24	3	4	31	5	23	90	164	89
Infantile Paralysis														
Typhoid Fever		2	2	1	1							2		
Malaria														
Small pox														
Measles														
Scarlet Fever		1	1	1							1			
Whooping Cough														
Diphtheria														
Influenza		1	1		1									1
Epidemic Meningitis (Cerebro Spinal)														
Other Epidemic Diseases														
Tuberculosis of Lungs (Consumption)		93	93	77	16						2	10	19	1
Tuberculous Meningitis		5	5	2	1		1		1	1		1		
Other Tuberculosis		3	3					1	1	1		1		
Cancer, Malignant Tumor	1	34	35	11	14							4	10	5
Simple Meningitis		1	1	1							1			
Apoplexy, Softening of the Brain		7	10	6	10							1	5	10
Organic Heart Diseases		15	15		6		1	1	2	1	1	3	2	6
Bronchitis		3	3	1	2									3
Pneumonia, Lobar		22	23	17	6		1		1		4	6	11	1
Pneumonia, Broncho	2	5	7	4	3	5	1	1	7					
Other Respiratory Diseases		7	7	5	2	2			2			1	3	1
Diseases of the Stomach (Cancer excepted)		7	7	5	4						1	2	3	1
Diarrhoeal Diseases (under 5 years	1		1		1	1			1					
Appendicitis and Typhlitis		12	12	7	5			1	1		4	5	2	
Hernia, Intestinal Obstruction		5	5	3	2							2	2	1
Cirrhosis of Liver		4	4	2	2							3		1
Bright's Disease and Nephritis	3	52	55	23	32							9	18	8
Diseases of Women (not Cancer)		9	9		9						3	4	1	1
Puerperal Septicaemia														
Other Puerperal Diseases														
Congenital Debility and Malformation		14	14	10	4	14			14					
Old Age		4	4	2	2									4
Accident	3	49	52	39	9			1	1	1	4	30	13	3
Homicide	1	1	2	2						1			1	
Suicide		5	5	5							1	3	1	
Ill defined Causes		1	1		1	1			1					
All Other Causes		35	35	16	19	1	1	3	7		1	9	16	2

MORTALITY FROM PRINCIPAL CAUSES OF DEATH BY SEX AGE AND COLOR

UNKNOWN

CAUSES	Colored	White	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	1	49	50	40	10	1	....	1	2	....	3	7	11	27
[illegible]														
[illegible]														
[illegible]														
[illegible]														
[illegible]														
Scarlet Fever	....	....	....	....	....	....	....	....	....	....	....			
Whooping Cough	....	....	....	....	....	....	....	....	....	....	....			
Diphtheria	....	....	....	....	....	....	....	....	....	....	....			
[illegible]														
Epidemic Meningitis (Cerebro Spinal)	....	....	....	....	....	....	....	....	....	....	....	....	....	....
[illegible]														
[illegible]		2	3	3								1		2
Tuberculous Meningitis	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Tuberculosis	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Cancer, Malignant Tumor														
Simple Meningitis	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Apoplexy, Softening of the Brain	....	5	5	5	....	....	....	....	....	....	....	1	2	2
Organic Heart Diseases	....	8	8	6	2	....	....	....	....	....	....	1	3	4
[illegible]hitis	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pneumonia, Lobar	1	1	2	2	....	....	....	....	....	....	....	1	....	1
[illegible]ia, Broncho	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Respiratory Diseases	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Diseases of the Stomach (Cancer excepted)	....	....	....	....	....	....	....	....	....	....	....	....	....	....
[illegible]		1	1		1	....		1	1	....	....			
[illegible]		1	1	1					....	....		1	....	....
[illegible]										....			....	....
[illegible]										....			....	....
[illegible]		11	11	10	1						1	1	4	7
[illegible]											....	....	....	....
[illegible]											....	....	....	....
[illegible]											....	....	....	....
Congenital Debility and Malformations	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Old Age		6	6	3	3	....	....	....	....	....	2	1	....	3
[illegible]		3	3	3							2	1		
[illegible]											....			
[illegible]		1	1	1							....	1	....	....
[illegible]											....	....	....	....
All Other Causes		4	4	6	3	1			1		1	1	2	4

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AND AGE

TOTALS FOR THE YEAR.

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total all causes	6357	3537	2820	1026	300	495	1821	254	335	1197	1566	1184
Infantile Paralysis	376	226	150	61	96	163	320	49	5	2	-	-
Typhoid Fever	23	16	7	-		1	1	2	8	10	1	1
Malaria	1	1				-				-	1	-
Smallpox											-	
Measles	102	54	48	23	47	30	95	5	1	1		
Scarlet Fever	7	4	3	1	-	5	6	1				
Whooping Cough	25	11	14	11	7	4	25					
Diphtheria	57	31	26	5	18	20	43	13			1	
Influenza	45	17	28	3	1	3	7	1	2	5	7	23
Epidemic Meningitis Cerebro Spinal)	22	12	10	3	2	3	8	6	2	5		1
Other Epidemic Diseases	1	1							1		-	-
Tuberculosis of Lungs Consumption	685	465	220	-	1	6	7	13	119	34	177	21
Tuberculous Meningitis	61	33	28	14	15	17	46	10	2	4	4	1
Other Tuberculoses	37	19	18	2	1	4	7	3	3	14	7	3
Cancer Malignant Tumor	335	132	203						4	39	192	100
Simple Meningitis	38	27	11	7	8	6	21	1	4	6	5	
Apoplexy Softening of the Brain	343	153	190						1	21	145	176
Organic Heart Diseases	495	240	255	19	3	4	26	32	28	85	144	170
Bronchitis	137	57	80	5	11	4	20	4	1	9	18	42
Pneumonia, Lobar	497	300	197	4	41	13	98	10	23	131	147	77
Pneumonia Broncho	264	146	118	27	55	37	169	5	4	8	28	48
Other Respiratory Diseases	180	97	83	1	7	6	14	3	5	37	60	59
Diseases of the Stomach (Cancer excepted)	64	41	23	9	2	6	17	1	4	14	14	14
Diarrhoea Diseases of Infancy	264	147	117	190	53	16	264					
Appendicitis and Typhlitis	67	37	30	1		2	3	15	14	23	12	
Hernia, Intestinal Obstruction	36	12	24	2	1	-	3	3	1	6	14	9
Cirrhosis of Liver	49	36	13	1			1			12	26	10
Bright's Disease and Nephritis	704	389	315	6		6	12	9	17	143	301	222
Diseases of Women (not Cancer	47		47						12	25	7	
Diseases of Prostate	12		12						3	9		
Other Diseases of Digestive	14		14						4	10		
Congenital Debility and Malformation	435	264	171	435			435					
Old Age	85	36	49								1	84
Accidents	303	232	71	12	8	32	52	48	98	93	62	10
Homicides	14	8	6					2	2	7	3	
Suicides	55	47	8						7	25	19	4
Undefined Causes	1		1	1			1					
All Other Causes	47	26	21	23	10	23	56	17	30	110	153	46

The death rate for the year was 16.5 per 1,000 of population as against 14.3 for the previous year. The present population of Newark is estimated for these calculations at 385,000

MORTALITY FROM PRINCIPAL CAUSES OF DEATH BY SEX AND AGE
JANUARY, 1916.

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	[illegible]	[illegible]	[illegible]	71	31	23	[illegible]	1	[illegible]	108	205	1[illegible]
Infantile Paralysis												
Typhoid Fever		[illegible]	1						1	2		
Malaria												
Smallpox												
Measles	1		[illegible]	1	7	4	12	1				
Scarlet Fever						1	1	1				
Whooping Cough						[illegible]						
Diphtheria			[illegible]		2	3	5	1			1	
Influenza		[illegible]				2	2		1	3	4	
Epidemic Meningitis (Cerebro Spinal)	2		[illegible]	1		1	2					
Other Epidemic Diseases												
Tuberculosis of Lungs (Consumption)		[illegible]			1	[illegible]	1	1	10	29	21	
Tuberculous Meningitis	[illegible]		[illegible]	1	[illegible]	2	3	1				
Other Tuberculous Diseases		1	1									1
Cancer and Malignant Disease		[illegible]	1							2	12	[illegible]
Simple Meningitis				1	1	1	3	[illegible]	1	1	1	
Apoplexy, Softening of the Brain	[illegible]	[illegible]						[illegible]	[illegible]	1	12	
Organic Heart Diseases	[illegible]		[illegible]	1	2		3	4	3	7	15	
Bronchitis			[illegible]	5	1		6	1	[illegible]		5	
Pneumonia, Lobar	[illegible]		[illegible]	4	4	1	9	4	3	19	48	[illegible]
Pneumonia, Broncho	[illegible]		[illegible]	14	8	2	24	1	1	4	16	
Other Respiratory Diseases	[illegible]	[illegible]	[illegible]	1		2	3	1	2	3	3	
Diseases of the Stomach (Cancer excepted)	[illegible]		5	1		1	2		2	3	1	
Diarrhoea, Diseases (under 5 years)			1	7	2	[illegible]	9		[illegible]	[illegible]	[illegible]	
Appendicitis and Typhlitis			1					1		4		
Hernia, Intestinal Obstruction			3						1	2	[illegible]	1
Cirrhosis of Liver											[illegible]	
Bright's Disease and Nephritis		1	38	1			1	[illegible]	[illegible]	1[illegible]	31	1
Diseases of Women (not Cancer)	[illegible]		4						[illegible]	[illegible]		
Puerperal Septicaemia	[illegible]		1							1		
Other Puerperal Diseases			[illegible]						1	[illegible]		
Congenital Debility and Malformations		1	1	[illegible]			[illegible]					
Old Age	17	[illegible]	[illegible]									
Accident	16	1		1		[illegible]	[illegible]	1	3	4	2	
Homicide			[illegible]							1		
Suicide	[illegible]	[illegible]								3	[illegible]	1
Ill-defined Causes												
All Other Causes	29	12	17		1		1	1	[illegible]		[illegible]	4

The death rate for the month was [illegible]7 per 1,000 of population, as against 14.3 for the previous month. The present population of Newark is estimated for these calculations at 380,000.

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AND AGE FEBRUARY, 1916.

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	534	276	258	82	4	14	125	18	26	117	141	119
Infantile Paralysis												
Typhoid Fever												
Malaria												
Smallpox												
Measles	10	8	2	2	5	2	9	1				
Scarlet Fever												
Whooping Cough	3	1	2	2	1		3					
Diphtheria	2		2	1	1		2					
Influenza	8	3	5	1	1		2		1		1	4
Epidemic Meningitis (Cerebro Spinal)	5	4	1			1	1	1		3		
Other Epidemic Diseases												
Tuberculosis of Lungs (Consumption)	73	49	24			1	1	2	10	42	16	2
Tuberculous Meningitis	4	3	1		1	1	2	2				
Other Tuberculosis	3	1	2			1	1				1	1
Cancer, Malignant Tumor	36	12	24							5	23	8
Simple Meningitis	2	2		1	1		2					
Apoplexy, Softening of the Brain	27	15	12							3	9	15
Organic Heart Diseases	45	19	26	1			1	1	1	8	15	19
Bronchitis	21	1	11	1	1		11	2		1	2	5
Pneumonia, Lobar	59	24	35	6	1	3	10	1	3	14	17	14
Pneumonia, Broncho	29	17	12	10	8	4	22					7
Other Respiratory Diseases	9	5	4							3	4	2
Diseases of the Stomach (Cancer excepted)	8	4	4	1			1			2	2	3
Diarrhoea, Diseases (under 5 years)	8	4	4	8								
Appendicitis and Typhlitis	2	1	1						1	1		
Hernia, Intestinal Obstruction	7	4	3	1			1	1		1	1	
Cirrhosis of Liver												
Bright's Disease and Nephritis	64	33	31						2	12	27	23
Diseases of Women (not Cancer)	6		6						1	2		3
Puerperal Septicaemia												
Other Puerperal Diseases	2		2						1	1		
Congenital Debility and Malformation	40	22	18	40			40					
Old Age	3	2	1									3
Accident	12	10	2		1	1	2	1	3	2	3	1
Homicide												
Suicide	6	5	1							2	3	1
Ill defined Causes												
All Other Causes	40	18	22	1	3		4	6	3	6	17	5

The death rate for the month was 16 per 1,000 of population, as against 20.7 for the previous month. The present population of Newark is estimated for these calculations at 380,000

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AND AGE
MARCH, 1916.

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	607	328	279	100	21	29	150	11	34	114	132	120
Infantile Paralysis	2	1	1						2			
[illegible]												
[illegible]												
[illegible]	26	12	14	7	12	6	25	1				
[illegible]	2	1	1			2	2					
[illegible]												
[illegible]	4	1	3		3		3	1				
[illegible]	5	3	2			1	2	1		1	1	
[illegible]	2	1	1			1	1	1				
[illegible]	1	1							1			
Diseases of Lungs (Consumption)	80	54	26			3	3		14	38	21	4
Tuberculous Meningitis	8	5	3	2	1	4	7		1			
[illegible]	4	2	2	1			1			2	1	
Cancer, Malignant Tumor	24	6	18							1	7	16
Simple Meningitis	4	3	1	1	1	1	3				1	
[illegible]	34	12	22							3	14	17
Organic Heart Diseases	45	20	25	1			1	4	2	7	17	14
[illegible]	23	9	14	18			18				2	5
Pneumonia, Lobar	54	32	22	6	7		13	2	2	13	15	9
Pneumonia, Broncho	28	14	14	8	8	4	20		1	1	3	3
Other Respiratory Diseases	19	9	10	3	1		4	1		4	4	6
[illegible]	7	7		1		1	2			1	3	1
Diarrhoeal Diseases (under 5 years)	11	6	5	9	1	1	11					
Appendicitis and Typhlitis	9	6	3					2	3	3	1	
Hernia, Intestinal Obstruction	4		4		1		1				2	1
Cirrhosis of Liver	3	1	2							1	1	1
Bright's Disease and [illegible]	72	47	25					3	3	12	24	30
Diseases of Women (not Cancer)	2		2						1		1	
Puerperal [illegible]	2		2						2			
Other Puerperal Diseases												
Congenital Debility and Malformation	56	34	22	56			56					
[illegible]	5	1	4									5
Accident	23	15	8	3		2	5	1		11	3	3
[illegible]												
Suicide	6	4	2							3	2	1
Undefined Causes	1		1	1			1					
All Other Causes	41	21	20	4	2	3	9	4		13	9	4

The death rate for the month was 19.2 per 1,000 of population, as against 16.9 for the previous month. The present population of Newark is estimated for these calculations at [illegible].

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AND AGE

APRIL, 1916

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	541	320	221	86	36	28	150	17	26	124	143	81
Infantile Paralysis												
Typhoid Fever												
Malaria												
Scarlet Fever												
Measles	24	10	14	7	7	8	22	1	1			
Scarlet Fever	1	1				1	1					
Whooping Cough	2	1	1		2		2					
Diphtheria	8	4	2	1	2	2	5	1		1		
Influenza	3	2	1	1			1			1	1	
Acute Meningitis (Cerebro-Spinal)	4	2	2	1			1	1	1	1		
Other Epidemic Diseases												
Acute Diseases of Lungs (Not Pneumonia)	72	45	27			2	2	1	12	39	16	2
Tuberculous Meningitis	11	5	6	3	4		7	2		1	1	
Other Tuberculous	3	2	1					1	1	1		
Cancer, Malignant Tumor	40	22	18						1	4	27	8
Simple Meningitis	3	3			1		1	1		1		
Apoplexy, Softening of the Brain	24	13	11							1	11	12
Organic Heart Diseases	41	23	18	2			2	4	1	1	16	8
Bronchitis	7	1	6		2	1	3				1	3
Pneumonia	39	31	8	4	3	1	8			13	15	3
Pneumonia, Bronch	20	10	10	10	8	5	23	1			1	4
Other Respiratory Diseases	25	12	13	2	2	1	5			6	9	5
Diseases of the Stomach (Cancer excepted)	6	4	2	1	1		2		1	1	1	1
Diarrhoea, Diseases (under 5 years)	7	5	2	6		1	7					
Appendicitis	9	6	3			1	1	2	3	3		
Hernia, Intestinal Obstruction	2		2							1	1	
Cirrhosis of Liver	2	1	1							1		1
Bright's Disease and Nephritis	54	33	21	2			2			12	26	14
Diseases of Women (not Cancer)	2		2							1	1	
Puerperal Septicaemia	2		2							2		
Other Puerperal Diseases	3		3							3		
Congenital Debility and Malformation	41	30	11	41			41					
Old Age	11	4	7									11
Accident	33	19	4	2	2	4	8	1	1	6	5	2
Homicide	2	2							1	2		
Suicide												
Ill-defined Causes												
All Other Causes	42		33	3	2	1	6	1	3	14	11	7

The death rate for the month was 17.1 per 1,000 of population as against 19.2 for the previous month. The present population of Newark is estimated for these calculations at 380,000.

MORTALITY FROM PRINCIPAL CAUSES OF DEATH BY SEX AND AGE
MAY, 1916.

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 under 2	2 under 5	5 Years	14	15	41	45	65
Total, all causes	[illegible]	[illegible]	937	71	27	20	118	18	35	94	[illegible]	[illegible]
Infantile Paralysis												
[illegible] Fever												1
Malaria												
Smallpox												
Measles	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]					
Scarlet Fever												
Whooping Cough				[illegible]								
Diphtheria	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]						
Influenza												[illegible]
[illegible] Meningitis (except Spinal)		[illegible]	1	1			1		[illegible]			
Other Epidemic Diseases												
[illegible]	[illegible]	[illegible]	[illegible]					1			1	[illegible]
[illegible] Meningitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]			
[illegible]	[illegible]							1		1		
Cancer, Malignant Tumor	[illegible]	[illegible]	17							[illegible]	1	[illegible]
Simple Meningitis						1	[illegible]			[illegible]		
Apoplexy, Softening of the Brain	[illegible]	[illegible]	[illegible]							[illegible]		[illegible]
Organic Heart Diseases	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]			
[illegible]			[illegible]	[illegible]					[illegible]	1		[illegible]
Pneumonia, Lobar	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	1	[illegible]
Pneumonia, Broncho		[illegible]								1	[illegible]	
Other Respiratory Diseases	1	[illegible]	[illegible]							1	[illegible]	[illegible]
Diseases of the Stomach (Cancer excepted)										[illegible]	2	
Diarrheal Diseases under 2 years	1	[illegible]	[illegible]	11	3	1	[illegible]					
[illegible]	[illegible]					1	1		2		1	
Hernia, Intestinal Obstruction			[illegible]								1	
Cirrhosis of Liver	[illegible]	[illegible]	[illegible]							2	[illegible]	[illegible]
Bright's Disease and Nephritis	[illegible]	[illegible]	[illegible]			1	[illegible]			10	22	[illegible]
Diseases of Women, not Cancer	[illegible]		[illegible]						1	3	1	
[illegible]			[illegible]							2		
Other Puerperal Diseases			[illegible]						2			
Congenital, Debility and Malformations	[illegible]	18	12	6[illegible]			[illegible]					
Old Age	[illegible]	[illegible]	7									13
Accident	1	1[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
Homicide										1		
Suicide										1		
Ill defined Causes												
All Other Causes		[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]		[illegible]	[illegible]	[illegible]	1

The death rate for the month was 16.8 per 1,000 of population as against 17.1 for the previous month. The present population of Newark is estimated for these calculations at 380,000.

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AND AGE.

JUNE, 1916.

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	422	240	182	80	11	15	106	23	21	85	109	78
Infantile Paralysis												
Typhoid Fever	2	2							2			
Malaria												
Smallpox												
Measles	5	3	2	2		3	5					
Scarlet Fever	1		1			1	1					
Whooping Cough	3	2	1	2		1	3					
Diphtheria	4	2	2	1	1	2	4					
Influenza												
Epidemic Meningitis (Cerebro Spinal)	5	3	2		2		2	2			1	
Other Epidemic Diseases												
Tuberculosis of Lungs (Consumption)	48	31	17					2	10	23	10	3
Tuberculosis Meningitis	5	3	2	2			2				3	
Other Tuberculosis	3	2	1						1	2		
Cancer, Malignant Tumor	30	11	19						1	3	15	11
Simple Meningitis	2	1	1					1		1		
Apoplexy, Softening of the Brain	27	10	17							3	15	9
Organic Heart Diseases	29	14	15	2			2	3		4	11	9
Bronchitis	4	2	2	2			2					2
Pneumonia, Lobar	24	12	12	4	2		2		1	9	7	1
Pneumonia, Broncho	14	7	7	6	2	2	10	1		1	1	1
Other Respiratory Diseases	11	5	6	1	1	1	3			3		5
Diseases of the Stomach (Cancer excepted)	4	1	3							2		2
Diarrhoeal Diseases (under 5 years)	14	10	4	13		1	14					
Appendicitis and Typhlitis	5	3	2					3		2		
Hernia, Intestinal Obstruction	2	1	1	1			1				1	
Cirrhosis of Liver	5	3	2								4	1
Bright's Disease and Nephritis	67	43	24	3		1	4	1	3	14	24	21
Diseases of Women (not Cancer)	3		3						1	2		
Puerperal Septicaemia												
Other Puerperal Diseases												
Congenital Debility and Malformation	78	30	70	39			39					
Old Age	5	2	3									5
Accident	24	20	4		1	1	2	10	1	6	5	
Homicide												
Suicide	3	3							1	1	1	
Ill defined Causes												
All Other Causes	34	15	19	2	2	2	6				11	8

The death rate for the month was 13.3 per 1,000 of population, as against 16.3 for the previous month. The present population of Newark is estimated for these calculations at 380,000.

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AND AGE

JULY, 1916.

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	86	347	239	115	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	97	62	35	16		[illegible]		1	[illegible]			
[illegible]	2	2							[illegible]			
M[illegible]	1	1									1	
S[illegible]												
M[illegible]	4	3	1		2	1	3	1				
S[illegible]												
W[illegible]	2	1	1	...	1	1	2					
T[illegible]	6	4	2	...	2	2	4	2				
In[illegible]												
[illegible] M[illegible]	1	1	-		...	...	...	...	...	1	...	...
[illegible]												
[illegible]	57	41	16					2	13	27	13	2
[illegible]	6	4	2	2	3	1	6					
[illegible]												
[illegible]			19							3	19	10
S[illegible]	1		1			1	1					
[illegible]										4		4
[illegible]						1	1	4	4		5	20
[illegible]			2	2			2	1				
[illegible]										3		
Pneumonia, Broncho	24	15	9	4	6	8	18	2	...		1	3
Other Respiratory Diseases					1		1	1		1	2	
Diseases [illegible]								1			2	1
[illegible]	1			46		5	51					
[illegible]	5		3						1	3	1	
[illegible]	1	1										
[illegible]		3						1				
[illegible]	52	31	21								1	2
Diseases of Women (not Cancer)	7		7						1	18	21	12
Puerperal Septicaemia	2		2						2	4	1	
Other Puerperal Diseases									1	1		
Congenital Debility and Malformation	38	24	14	38			38					
Old Age	9	5	4									9
Accident	9	5	4		1	4	5	4	1	3	4	2
Homicide	4	4								3	1	
Suicide	4	4							1	1	2	
Ill defined Causes												
All Other Causes	43	24	19	3	4	2	9	1	2	11	12	8

The death rate for the month was 15.0 per 1000 of population as against 15.3 for the previous month. The present population of Newark is estimated for these calculations at [illegible]

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AND AGE
AUGUST, 1916.

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	647	353	294	128	91	118	337	41	31	71	86	81
Infantile Paralysis	226	131	95	30	64	95	190	30	4	2	-	
Typhoid Fever	1	1	-	-	-	1	1	-	-		-	
Malaria	-	-	-	-	-	-	-	-	-	-	-	-
Small pox												
Measles	1	1		1			1	-	-	-		
Scarlet Fever	-	-										
Whooping Cough	3	1	2	2	1		3		-		-	
Diphtheria	1	1					-	1				
Influenza						-	-					
Epidemic Meningitis (Cerebro Spinal)												
Other Epidemic Diseases												
Tuberculosis of Lungs (Consumption	49	32	17			-			11	23	13	2
Tuberculous Meningitis	2	1	1				1	1				
Other Tuberculosis	2		2						1	1		
Cancer, Malignant Tumor	1	5	14							2	11	6
Simple Meningitis	2	2			-	-				1	1	
Apoplexy, Softening of the Brain	24	9	1							1	7	16
Organic Heart Diseases	37	16	21	2	1	2	5	2	3	7	10	10
Bronchitis	3	2	1	1	1		2					1
Pneumonia, Lobar	13	8	5	3	5	1	9			2	2	
Pneumonia, Broncho	9	13	6	6	6	5	17				1	1
Other Respiratory Diseases	11	5	6						2		5	4
Diseases of the Stomach (Cancer excepted)	2	1	1							2		
Diarrhoeal Diseases (under 5 years)	66	35	31	48	12	6	66					
Appendicitis and Typhilitis	9	5	4					2	3	1	3	
Hernia, Intestinal Obstruction	3	1	2								1	2
Cirrhosis of Liver	3	3								1	1	1
Bright's Disease and Nephritis	43	18	25			1	1			7	20	15
Diseases of Women (not Cancer	4		4						1	3		
Puerperal Septicaemia												
Other Puerperal Diseases											-	
Congenital Debility and Malformation	31	18	13	31			31				-	
Old Age	8	4	4									8
Accident	26	21	5	2		2	4	5	4	9	2	2
Homicide	1		1						1			
Suicide	6	5	1						1	3	2	
Ill defined Causes	-	-	-								-	-
All Other Causes	32	14	18	2	1	3	6			6	7	13

The death rate for the month was 19.7 per 1,000 of population as against 18.0 for the previous month. The present population of Newark is estimated for these calculations at 398,198.

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AND AGE SEPTEMBER, 1916.

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	409	240	169	75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Infantile Paralysis	0	29	11									
Typhoid Fever			1									
Malaria												
Smallpox												
Measles												
Scarlet Fever		1							1			
Whooping Cough		1		2		1						
Diphtheria	4							1				
Influenza												
Epidemic Meningitis (Cerebro Spinal)												
Other Epidemic Diseases												
Tuberculosis of Lungs (Consumption	11		4						7			
Tuberculous Meningitis		1										1
Other Tuberculosis				1				1				
Cancer, Malignant Tumor			4									
Suicide, Malignant												
Apoplexy, Softening of the Brain		1							1	1		
Organic Heart Diseases								1		1		
Bronchitis					1							1
Pneumonia (All Forms)				1	1				1			
Pneumonia, Broncho			1	1		1		1				1
Other Respiratory Diseases									1			
Diseases of the Stomach (Cancer excepted)			1								1	1
Diarrhoeal Diseases (under 5 years)		17				1						
Appendicitis and Typhlitis				1			1	2	1	1	1	
Hernia, Intestinal Obstruction			1									
Cirrhosis of Liver				1			1					1
Bright's Disease and Nephritis						1	1		2	1		1
Diseases of Women (not Cancer)	1		1						1			
Puerperal Septicaemia												
Other Puerperal Diseases	1		1							1		
Congenital Debility and Malformation												
Old Age												
Accident												
Homicide												
Suicide												
Ill defined Causes												
All Other Causes												

The crude rate for the month was [illegible] per 1,000 of population as against [illegible] for the previous month. The present population of Newark is estimated for these calculations at 390,000

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AND AGE
OCTOBER, 1916.

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total, all causes	429	244	185	78	16	18	112	14	22	90	115	76
Infantile Paralysis	9	3	6	4	1	2	7	2				
Typhoid Fever	6	3	3						2	3	1	
Malaria												
Smallpox												
Measles												
Scarlet Fever												
Whooping Cough	1	1		1			1					
Diphtheria	3	2	1	1		2	3					
Influenza												
[illegible]												
[illegible]												
Tuberculosis of Lungs (Consumption)	42	30	12					1	7	25	8	1
Tuberculous Meningitis	2	1	1			2	2					
Other Tuberculosis	4	2	2							2	2	
[illegible]												
Simple Meningitis	2	2				2	2					
Apoplexy, Softening of the Brain	21	9	12							1	8	12
Organic Heart Diseases	41	17	24	1			1	1	2	7	13	17
[illegible]	8	5	3	3	2	2	7					1
[illegible]	27	15	6		4	1	12			4	3	2
[illegible]	14	7	7	7	1	2	10				2	2
[illegible]	11	7	4	1	1		2			2	6	1
Diseases of the Stomach (Cancer excepted)	4	2	2	1		1	2		1			1
Diarrhoeal Diseases (under 5 years)	15	8	7	11	4		15					
[illegible] Syphilis	6	3	3					2		3	1	
Hernia, Intestinal Obstruction	3	1	1								2	
[illegible]	6	2	4							3	3	
Pneumonia and Nephritis	58	29	29			1	1	3	1	11	22	20
[illegible]	3		3						1	1	1	
[illegible]	2		2							2		
Other Puerperal Diseases	1		1							1		
Congenital Debility and Malformation	37	27	10	37			37					
Old Age	6	1	5									6
Accident	37	29	8		1	2	5	4	5	10	12	1
Homicide	3	1	2						1	2		
Suicide	5	3	2							4	1	
Ill-defined Causes												
All Other Causes	30	13	17	2		3	5	1	2	6	12	4

The death rate for the month was 13.2 per 1,000 of population, as against 12.6 for the previous month. The present population of Newark is estimated for the [illegible] at 390,000.

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AND AGE
NOVEMBER 1916.

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total [illegible] Causes	[illegible]	[illegible]	165	53	17	11	81	12	18	101	133	88
Infantile Paralysis	4		1	1			4					
Typhoid Fever	3	2	1							3		
Malaria												
Smallpox												
Measles	1	1			1		1					
Scarlet Fever												
Whooping Cough												
Diphtheria	3	1	2		1	1	2	1				
Influenza												
Epidemic Meningitis, Cerebro-Spinal												
Other Epidemic Diseases												
Tuberculosis of Lungs (Consumption)	49	36	13					2	5	26	14	2
Tuberculous Meningitis	2		2		1		1			1		
Other Tuberculosis	6	3	3			1	1				1	1
Cancer, Malignant Tumor		14	16								15	
Simple Meningitis	2	2			2		2					
Apoplexy, Softening of the Brain	33	12	21							1	17	15
Organic Heart Diseases	43	27	16	3			3	4	1	4	15	16
Bronchitis	5		5	3	1		4					1
Pneumonia, Lobar	40	30	10	5	3		8	1	4	14	10	3
Pneumonia, Broncho	10	9	1	4	1	1	6				1	3
Other Respiratory Diseases	15	10	5	1			1			3	9	2
Diseases of the Stomach (Cancer excepted)			1	1			1				1	1
Diarrhoeal Diseases (under 5 years)	7	6	1	6	1		7					
Appendicitis and Typhlitis	3	1	2							2	1	
Hernia, Intestinal Obstruction	5		5							1	3	
Cirrhosis of Liver	7		1								5	
Bright's Disease and Nephritis	49	32	17			1	1		1	9	4	13
Diseases of Women (not Cancer)	5		5						1	4		
Puerperal Septicaemia	1		1							1		
Other Puerperal Diseases	1		1							1		
Congenital Debility and Malformations	11		11	28			28					
Old Age	3		3								1	4
Accident	15	12	6			4	4	2		8	4	
Homicide	3	3						2			1	
Suicide	8	7	1						3	3	2	
Ill-defined Causes												
All Other Causes	[illegible]	[illegible]	[illegible]	1	4	[illegible]	[illegible]		[illegible]	11	10	1

The death rate for the month was [illegible] per [illegible] of population against [illegible] for the previous month. The present population of Newark is estimated for these calculations at 390,000.

MORTALITY FROM PRINCIPAL CAUSES OF DEATH, BY SEX AND AGE
DECEMBER, 1916

CAUSES	Total Deaths	Males	Females	Under 1 Year	1 and Under 2	2 and Under 5	Under 5 Years	5 to 14	15 to 24	25 to 44	45 to 64	65 and Over
Total all causes	586	316	270	64	15	20	99	19	35	131	179	123
Infantile Paralysis												
Typhoid Fever												
Malaria												
Smallpox												
Measles												
Scarlet Fever												
Whooping Cough	1	1		1			1					
Diphtheria	9	7	2		2	4	6	3				
Influenza	5		5									5
Epidemic Meningitis (Cerebro Spinal)	1		1					1				
Other Epidemic Diseases												
Tuberculosis of Lungs (Consumption)	54	36	18					1	5	30	16	2
Tuberculous Meningitis	5	4	1		1	2	3	2				
Other Tuberculosis	1	1								1		
Cancer, Malignant Tumor	32	15	17						1	5	18	8
Simple Meningitis	8	5	3	2	1	1	4		1	2	1	
Apoplexy, Softening of the Brain	42	15	27								15	27
Organic Heart Diseases	4	26	43	1		1	2	1	6	11	12	17
Bronchitis		9	14	8		1	9				5	9
Pneumonia, Lobar	74	48	26	1	2	1	4		7	27	28	8
Pneumonia, Broncho	20	6	14	4	5	3	12		1	1		6
Other Respiratory Diseases	20	11	9	1	1		2			3	7	8
Diseases of the Stomach (Cancer excepted)			1		1	1	2				1	3
Diarrhoeal Diseases (under 5 years)	9	5	4	8	1		9					
Appendicitis and Typhlitis	4	1	3					1			3	
Hernia, Intestinal Obstruction	1	1								1		
Cirrhosis of Liver	7	6	1							3	4	1
Bright's Disease and Nephritis	69	33	36						2	15	35	17
Diseases of Women (not Cancer)	5		5						2	1	2	
Puerperal Septicaemia												
Other Puerperal Diseases	1		1							1		
Congenital Debility and Malformation	33	17	16	33			33					
Old Age	1		1									1
Accident	47	34	13	3	1	5	9	8	6	11	12	1
Homicide												
Suicide	3	3								2	1	
Ill-defined Causes												
All Other Causes	56	27	29	2		1	3	2	4	18	19	10

The death rate for the month was 18.0 per 1,000 of population, as against 13.2 for the previous month. The present population of Newark is estimated for these calculations at 390,000

DEATHS IN INSTITUTIONS, ETC, FOR 1916.

Newark City Hospital	1094
St Michael's Hospital	3[illegible]
German Hospital	[illegible]
St. Barnabas' Hospital	77
Beth Israel Hospital	10[illegible]
St James' Hospital	[illegible]
Babies' Hospital	52
Newark Private Hospital	[illegible]
Presbyterian Hospital	[illegible]
Homeopathic Hospital	[illegible]
Women and Children's Hospital	[illegible]
Maternity Hospital	[illegible]
Essex County Hospital for Insane	[illegible]
Essex County Isolation Hospital (Soho)	[illegible]
Dr Waite's [illegible]	[illegible]
Newark T[illegible]	11
Home for Crippled Children	[illegible]
Home for [illegible]	[illegible]
Home for the Fr[illegible]	[illegible]
Home for Aged Women	[illegible]
House of Good Shepherd	2
Little Sisters of the Poor	[illegible]
Alms House	41
[illegible]e and Ear Infirmary	[illegible]
Florence Crittenden Home	[illegible]
Baptist Home	[illegible]
St Mary's Orphanage	[illegible]
St Peter's Orphanage	1
Eighth Avenue Day Nursery	1
St Vincent's Academy	1
[illegible]ex County Jail	[illegible]
Police Stations	
Post Office Building	1
Krueger Greisenheim	1
Railroad Stations	[illegible]
Hotels and Lodging Houses	[illegible]
Prudential Insurance Company	1
Synthetic Dye Company	[illegible]
Oscar Sherer Bros	[illegible]

Butterworth, Judson Company	1
Centra Stamping Company	1
Drug Store	1
Commercial Wharf	1
Interstate Milk Company	5
Weequahic Park	2
Branch Brook Park	1
Ambulance en route to Hospital	2
Boat on Passaic River	1
Railroad Tracks and Crossings	12
On Street	15
Found in Lots	2
Found in Canal	6
Found in Passaic River	6
Found in Newark Bay	1

Mortality Statistics of Newark

FOR THE YEAR 1916

Including non-resident deaths, arranged to give disease, age and sex and according to International Classification, compiled by Frederick S. Crum, Ph D., Assistant Statistician of the Prudential Insurance Company, Newark, N. J.

MORTALITY CAUSES ARRANGED AS FOLLOWS:

MALE

1 General Diseases.
2 Nervous System and Organs of Special Sense.
3 Diseases of Circulatory System.
4 Diseases of Respiratory System.
5 Diseases of Digestive System.
6 Non-venereal Diseases of Genito-Urinary System.
7 Diseases of Skin and Cellular Tissue
8 Diseases of Bones and Organs of Locomotion.
9 Malformations.
10 Old Age
11 External Causes
- Suicides
- Accidents
- Homicides

12 Ill defined Diseases

FEMALE.

1 General Diseases.
2 Nervous System and Organs of Special Sense.
3 Diseases of Circulatory System.
4 Diseases of Respiratory System.
5 Diseases of Digestive System.
6 Non-venereal Diseases of Genito-Urinary System.
7 The Puerperal State
8 Diseases of Skin and Cellular Tissue
9 Diseases of Bones and Organs of Locomotion.
10 Malformations
11 Old Age.
12 External Causes—
- Suicides.
- Accidents.
- Homicides.

13 Ill defined diseases

MALE MORTALITY FIGURES FOR NEWARK FOR YEAR 1916.

Including non resident deaths, arranged to give disease and age according to International Classification.

CAUSES OF DEATH	All Ages	Under 1	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
I GENERAL DISEASES Total	867	46	54	24	15	13	152	18	13	26	45	62	79	73	102	78	102	67	62	40	20	13	9	3	1
Typhoid Fever	16					1	1		1	3	2	3	3	1	1		1					1			
Malaria	2					1	2																		
Measles	32	1	28	10	4	3	52	2			1														
Scarlet Fever	4			1		1	3			1															
Whooping Cough	10		4				10																		
Diphtheria and Croup	31	4	5	6	6	3	24	1	1									1							
Influenza	17	4	3	2			9			1			1		2		3		1	3	1	3	3	1	1
Erysipelas	14	3					3					1	1	1		4	2	1	1						
Puerperal Infection and Septicemia	1													1					1						
Tetanus	2					1	1									1									
TUBERCULOSIS All Forms, 28-35	302	6	5	3	4	3	24	10	3	20	33	50	68	53	79	50	53	35	15	12	7	2	1		
Tuberculosis of Lungs	287			1	1	1	3	2	2	19	30	48	67	53	78	50	52	33	15	11	5	2	1		
Acute Miliary Tuberculosis	1		1				1	1			1			1	1	1	1								
Tuberculous Meningitis	19	6	7	1	3	2	19	5	1		1	1		1		2	1	1			1				
Abdominal Tuberculosis	1										1		1												
Pott's Disease	4							1									1	1		1					
White Swellings	5							1		1		1								1	1				
Disseminated Tuberculosis	1			1			1																		
Rickets	2						2																		
Syphilis	13	1	1				2					1	3	4	1	1	5	2	2						
Other Infectious Diseases	2						2																		
CANCER—All Forms, 39-45	136	1		1			2		1		3	1		3	9	13	18	19	30	14	10	4	4	2	
Cancer of Buccal Cavity	3								1		1				1		1	3	2	1					
Cancer of Stomach and Liver	41													1	5	9	8	9	10	13	5	1	3	1	

MALL MORTALITY FIGURES FOR NEWARK FOR YEAR 1916 *Continued.*

CAUSES OF DEATH	All Ages	Under 1	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
[illegible]	[illegible]													1	[illegible]	2	6	5	8	3				1	
Cancer of Skin	3																	1		1		1			
Cancer of Other Organs and Organs Not Specified	[illegible]	1		1			2				2	1		1	2	2	3	1	10	2	5	3	1		
Other Tumors	1																1								
Acute Articular Rheumatism	16		3				3		3	1	1				1	1	1	2		1		2			
Diabetes	39								2		3	3	1	1	1	1	9	5	6	4	3	1			
Addison's Disease	3								1		1											1			
Leukemia	11	1		1			2					1	2	1	3	1			1						
[illegible]	[illegible]													1			1	1	1						
Other General Diseases	3							1	1					1											
[illegible]	30										1	2	1	4	5	3	7	1	4	1			1		
II NERVOUS SYSTEM AND ORGANS OF SPECIAL SENSE—Total	420	48	57	48	39	21	216	21	7	3	4	2	5	6	5	23	24	18	34	24	17	10	7	3	1
Meningitis	10	2	3	2			7			1							1		1						
Cerebrospinal Meningitis	10	1				2	6		1		1		1	1											
[illegible]	3															1		1					1		
Other Diseases of Special Cord	6														1	2			2	1					
[illegible]	227	39	52	54	32	19	196	21	6	1	1	1		1											
[illegible]	1										1	1	3	2	2	18	17	14	18	22	15	9	5	3	
Softening of the Brain	2																		1	1					
Paralysis without Special Cause	4																				1	1	1		1
General Paralysis of the Insane	15												1			1	3	2	2		1				
[illegible]	4									1						1	1	1							
Convulsions (under 5 years)	2	2					2																		
Other Diseases of Nervous System	7	1		1			2				1			1	2		1								
Diseases of Ears	5	2		1			3							1			1								

MALE MORTALITY FIGURES FOR NEWARK FOR YEAR 1916—*Continued.*

CAUSES OF DEATH	All Ages	Under 1	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
III. DISEASES OF CIRCULATORY SYSTEM Total	396	11		1		1	13	6	8	6	7	8	10	19	21	26	42	47	41	47	25	42	17	7	4
Pericarditis	2	1					1								1										
Acute Endocarditis	46	6		1			7	2	1	2	2	1	3	3	5	4	7	9							
Organic Diseases of the Heart	299	2				1	3	4	7	4	5	6	7	15	14	20	32	29	36	39	20	36	14	4	4
Angina Pectoris	14														1		1	5	1	2	1	2	1		
Diseases of Arteries, Arteriosclerosis, etc	28											1				1		3	4	6	4	4	2	3	
Embolism and Thrombosis	4	2					2										1	1							
Diseases of Veins	3													1		1	1								
IV. DISEASES OF RESPIRATORY SYSTEM—Total	502	110	54	20	9	3	196	7	1	7	9	15	23	30	32	35	38	23	25	25	13	6	11	5	1
Diseases of Larynx	2	2					2																		
Acute Bronchitis	34	24	4	1			29									1			1	1			2		
Chronic Bronchitis	7							1								1			1	1		2		1	
Bronchopneumonia	129	47	29	15	4	3	98	2	1		1		1	1	2	2	1	2	1	2	6	2	3	3	1
Pneumonia	295	32	19	3	3		57	4		7	7	13	17	28	28	29	33	20	30	20	4	2	6		
Pleurisy	22	3	2	1	2		8				1	1	3	1	1	1	2	1	1		1			1	
Pulmonary Congestion	3	2					2														1				
Gangrene of Lung	3												2			1								
Asthma	4											1					1		1		1				
Emphysema	1																1								1
Other Diseases of Respiratory System	2														1					1					
V. DISEASES OF DIGESTIVE SYSTEM Total	328	132	31	2	6	1	172	6	5	13	4	10	9	12	15	10	17	17	4	8	4	9	2	1	
Diseases of Mouth and Annexa	6		1				1			1					1	1		2							
Diseases of Pharynx	5				2		2	1																	

MALE MORTALITY FIGURES FOR NEWARK FOR YEAR 1916 *Continued.*

CAUSES OF DEATH	All Ages	Under 1	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29		35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
Ulcer of Stomach	25										1	1		1	1	3	3			1		1		1	
Other Diseases of Stomach		5			1		6					1					1	2			1				
Diarrhoea and Enteritis (under 2 years)	5	140	8				150																		
Diarrhoea and Enteritis (2 years and over)	10			2	3	1	6	1	1	1	1	1		1			1			1	1	2			
Appendicitis and Typhlitis	9							3	4	2	1	3	6		3		4								
Hernia	6	1					1				1						1	1					1		
Intestinal Obstruction	9	4					4	1		1		1	1					2				2			
[illegible] Liver	6	2					2			1					1	1							1		
[illegible] Liver												1													
Cirrhosis of Liver	28											1			6	4	4	8	4	4	2	4			
Alcoholic Cirrhosis of Liver	8													1	1										
Biliary Calculi	5														1	1	1			1					
Other Diseases of Liver														1											
Simple Peritonitis (non puerperal)	1																	1							
Other Diseases of Digestive System	3													1	1										
VI. DISEASES OF GENITO-URINARY SYSTEM (NON-VENEREAL) Total	34	3		3	2		8	1	1		5	9	7	9	38	29	29	4	4	33	32	22	18	5	1
Acute Nephritis	8	2		3	2		7		1		3	3	1		3			2	1	1	2		1		
Bright's Disease	26							1			2	4	6	7	34	29	27	40	43	31	27	20	16	5	1
Other Diseases of Kidneys	2	1					1					2									1		1		
Other Diseases of Urinary Passages																					1	1			
Diseases of Bladder																	1		1						
Diseases of Urethra															1		1	1							
Diseases of Prostate																				1	1		3		

MALE MORTALITY FIGURES FOR NEWARK FOR YEAR 1916 *Continued.*

CAUSES OF DEATH	All Ages	Under 1	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
VII DISEASES OF SKIN AND CELLULAR TISSUE Total	6	1					1				1					1	1	1		1					
[illegible]	1																			1					
[illegible]	1															1									
[illegible] Abscess	2																1	1							
Other Diseases of Skin	2	1					1				1														
VIII DISEASES OF BONES AND ORGANS OF LOCOMOTION Total	5	1	1				2		1				1		1										
Diseases of Bones	5	1	1				2		1				1		1										
IX MALFORMATIONS Total	246	244		1			245			1															
Congenital Malformation	38	36		1			37			1															
Congenital Debility	154	154					154																		
Other Causes, Early Infancy	54	54					54																		
X OLD AGE Total	8																		1		2	3	1	1	
Senility	8																		1		2	3	1	1	
XI EXTERNAL CAUSES Total	314	7	1	8	7	3	35	2	14	13	18	31	29	27	26	29	33	14	12	13	2	2	1	1	1
SUICIDES -																									
Suicide by Poison	4										1			1	1	1									
Suicide by Asphyxia										1		2	1	1		2	3	1	2	2					
Suicide by Hanging	4									1							1			2					
Suicide by Drowning										1															
Suicide by Firearms	1									1	1	4		[illegible]	1		1		1						
Suicide by Cutting or Piercing Instruments	3															1	1	1							
Suicide by Jumping											1														

MALL MORTALITY FIGURES FOR NEWARK FOR YEAR 1916 *Continued*

CAUSES OF DEATH	Under 1 Year	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
Suicide by Crushing	1																							
Other Suicides	1															1								
ACCIDENTS -																								
Poisoning by Food	1																							
Other Acute Poisonings	1											1												
Conflagration			1			1				1														
Burns						15	5		1	3														
Absorption of Gases							1		2	2								1		1				
Drowning	1						4	2						1		1								
Firearms									1															
Cutting or Piercing Instruments							1			1														
Fall		1		1	1	7		2											1					1
Machines																								
Elevator Accidents									1			1												
Crushing (Vehicles, etc) -																								
Railroad	1															1			1					
Street car					1	1		1			1							1	1	1				
Automobile																								
Other Vehicles			1		1	2								1										
Burns									1															
Injuries by Animals	1										1													
Starvation	1																		1					
Effects of Heat																		1						
Fractures (cause not specified)						1			1			1												
Other External Violence	1	4				4	1									1			1					
HOMICIDES—																								
Homicides by Firearms										1		1												
Homicides by Cutting or Piercing Instruments														1										
Homicides by Other Means		1																						
XII. ILL DEFINED DISEASES Total								1											1					
Ill Defined Organic Diseases	1																		1					
Not Specified or Ill Defined	1																							

FEMALE MORTALITY FIGURES FOR NEWARK FOR YEAR 1916.

Including non-resident deaths, arranged to give disease and age according to International Classification.

CAUSES OF DEATH	All Ages	Under 1	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
I GENERAL DISEASES—Total	7[illegible]	39	4[illegible]	29	10	7	137	16	12	41	40	43	38	40	43	63	45	38	50	48	27	21	10	4	3
Typhoid Fever	7							1		2	1	1		2											
Measles	48	[illegible]	15	12	1	1	45	3																	
Scarlet Fever	3				1	1	2	1																	
Whooping Cough	4	[illegible]	2	1	2	1	14																		
Diphtheria and Croup	[illegible]	1	13	4	1		1[illegible]	[illegible]	2																
Influenza	89	[illegible]	1	[illegible]		1	[illegible]				1	1	1	1	1	2	1		5	3	4	5	4		2
Dysentery	1																				1				
Erysipelas	2	1					1													1					
Tetanus	[illegible]	1					1					1													
TUBERCULOSIS All Forms, 28-35	72	1[illegible]	10	4	4	3	5	4	[illegible]	[illegible]	37	36	[illegible]	22	29	21	5	6	2	5	[illegible]	3		[illegible]	
Tuberculosis of Lungs	[illegible]	1		1	1	1	4		[illegible]	[illegible]	33	32	3[illegible]	2[illegible]	[illegible]	20	4	6	1	5	1	3	[illegible]		
Acute Miliary Tuberculosis	1[illegible]		1	1		1	[illegible]			[illegible]	3				2									
Tuberculous Meningitis	[illegible]	[illegible]	8	1	3	1	2[illegible]	3	1	1		2	1												
Abdominal Tuberculosis	[illegible]										1	1	1	2							1				
Pott's Disease	4		1				1	[illegible]				1					1								
Tuberculosis of Other Organs	2	1		1			2																		
Disseminated Tuberculosis	1						[illegible]												1						
Rickets	[illegible]						1															1			
Syphilis	1[illegible]	7			1		8					1		3		1	1		1						
Gonococcus Infection	[illegible]	1	1				2																		
CANCER—All Forms, 39-45	2[illegible]		1				1				1		[illegible]	[illegible]	15	[illegible]	[illegible]	36	26	26	1[illegible]	9	3	3	1
Cancer of Buccal Cavity	2																			1	1				
Cancer of Stomach and Liver	[illegible]3													[illegible]	[illegible]	[illegible]	[illegible]	11	10	12	6	6		2	
Cancer of Peritoneum, Intestines, Rectum	[illegible]4													[illegible]	4	[illegible]	[illegible]	8	2	3	3	2	1		

FEMALE MORTALITY FIGURES FOR NEWARK FOR YEAR 1916 *Continued.*

[illegible]		Under 1	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
Cancer of Female Genital Organs	56												3	6	7	1	8	8	8	3		1		1	
[illegible] of reast	27														1	[illegible]	4	5	4	4	1		2		1
[illegible] Skin	[illegible]																	1	1	1					
[illegible] Other Organs or Organ Not [illegible]											1														
[illegible]																3	2	7	1	2	1				
[illegible] [illegible]															1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]
[illegible] [illegible] [illegible] atism	12	1	1	[illegible]	[illegible]		2	1	1	1	[illegible]	2		1		[illegible]			1	2	[illegible]	[illegible]	[illegible]	1	[illegible]
Chronic Rheumatism and Gout	2	[illegible]			[illegible]	[illegible]	[illegible]									[illegible]		1			1				
[illegible]										1					1		[illegible]	[illegible]	1	11	7	2	2		
Exophthalmic Goiter	7				[illegible]	[illegible]	[illegible]	[illegible]		1	[illegible]	1			1	[illegible]	1	2			[illegible]	[illegible]		[illegible]	[illegible]
Leukemia	2		1	[illegible]		[illegible]	1		[illegible]	[illegible]	[illegible]	[illegible]			1						[illegible]	[illegible]		[illegible]	[illegible]
[illegible], Chlorosis	9		1	[illegible]		[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]			1	1			4	1			1			
[illegible] [illegible] [illegible]														[illegible]											
II. NERVOUS SYSTEM AND ORGANS OF [illegible] [illegible] [illegible]			7	1		2	10	[illegible]	8	5		2			2	2	[illegible]	20	3	4		21	2	8	
[illegible] [illegible]	[illegible]	1				1	2							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			[illegible]				4				1														
[illegible] [illegible] [illegible]		[illegible]		1			2	4	1	1		[illegible]													
Locomotor Ataxia	2			[illegible]			[illegible]	[illegible]	[illegible]		[illegible]		1	[illegible]	1					1					
[illegible] [illegible] of Spinal Cord										1							2	1	3	1	[illegible]	1			
Acute Anterior Poliomyelitis	46	22	44	28	15	15	124	16	6		3	[illegible]													
Cerebral Hemorrhage, Apoplexy	163				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		3		1	1	17	14	[illegible]	[illegible]	[illegible]	[illegible]	6	
Softening of the Brain	1						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] [illegible] [illegible]															1				1			1		1	
General Paralysis of the Insane	2				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	1	[illegible]
Other Forms of Mental Alienation	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]						1	1																		

FEMALE MORTALITY FIGURES FOR NEWARK FOR YEAR 1916—*Continued.*

CAUSES OF DEATH	All Ages	Under 1	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
Convulsions (under 5 years)	5	4		1			5																		
Chorea	1								1																
Neuralgia and Neuritis	1													1											
Other Diseases of Nervous System	7		1	1		1	3	1				1		1				1							
Diseases of Ears	2					1	1			1															
III DISEASES OF CIRCULATORY SYSTEM Total	47	8	2	1		2	13	1	2	8	16	1	2	10	17	16	14	29	32	50	55	49	36	20	5
Pericarditis	1																				1				
Acute Endocarditis	36	6				1	7	4	4		2	4	5	1	1		1	4		1				1	1
Organic Diseases of the Heart	334	2	2	1		1	6			7	13	6		10	13	15	10	21	30	44	40	43	34	12	3
Angina Pectoris	11													2			1	1		2	3	2			
Diseases of Arteries, Arteriosclerosis, etc	33									1						1		2	2	2	9	4	4	7	1
Embolism and Thrombosis	10										1	1			3	1		1		1	1		1		
Diseases of Veins	4															1	2				1				
IV DISEASES OF RESPIRATORY SYSTEM—Total	65	31	16	5	5	142	10	3	9	3	12	13	13	13	12	19	16	20	23	23	18	19	4	1
Diseases of Thyroid Body	4								1				1				1	1						
Acute Bronchitis	40	25	5			1	34		1								2		4	2	2	1		
Chronic Bronchitis	17			1			1									1		2	1	4	2	5	1		
Bronchopneumonia	86	23	20	11	1		55	3		2				1		1	2		2	3	4	5	8		
Pneumonia	191	12	22	2	3	3	42	5	2	6	3	11	12	10	12	10	14	13	15	12	11	7	8	2	1
Pleurisy	16		3	2	1	1	7	1				1		1			2			2			1	1	
Pulmonary Congestion	4	2	1				3														1				
Gangrene of Lung	1							1																	
Asthma	6												1		1		1			1		2			
Emphysema	1																				1				

FEMALE MORTALITY FIGURES FOR NEWARK FOR YEAR 1916 *Continued.*

CAUSES OF DEATH	All Ages	Under 1	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
V DISEASES OF DIGESTIVE SYSTEM																									
Total	200	70	30	8	5	1	143	6	2	3		7	7	8	6	14	12	10	11	8	10	2	3	2	1
Diseases of Mouth and Annexa	1														1										
Diseases of Pharynx	10	1	1	1			3	2		1	1		1						1			1			
Ulcer of Stomach	4										2		2												
Other Diseases of Stomach	9	1			1	1	3				1	1					1			2		1			
Diarrhoea and Enteritis (under 2 years)	122	95	27				122																		
Diarrhoea and Enteritis (2 years and over)	23			7	2		9							1	1			1	3	3	2		1	2	
Appendicitis and Typhlitis	28	1			2		3	4	2	3	4	1	2	1	2	2	2	2	1						
Hernia	6		1				1										1	1	2		1				
Intestinal Obstruction	16		1				1					1		8		4			2	1	2		2		
Other Diseases of Intestines	2												1			1									
Acute Yellow Atrophy of Liver	1										1														
Cirrhosis of Liver	16												1	1	2	3	3	3	1	1	1				
Biliary Calculi	16											3		1		4	2	1	1	1	3				
Other Diseases of Liver	7	1					1										3	1			1				1
Simple Peritonitis (non puerperal)	2										1	1													
Other Diseases of Digestive System	3													1				1	1						
VI DISEASES OF GENITO-URINARY SYSTEM (NON VENEREAL)—Total	303	3				1	4	3	2	3	8	9	13	18	21	35	21	38	29	33	22	27	7	8	2
Acute Nephritis	15	2					2		1	1	1		1	2		2		2	1		1	1			
Bright's Disease	60	1				1	2	3	1	1	2	7	7	14	15	26	18	34	27	32	20	24	7	8	2
Calculi of Urinary Passages	1															1									
Diseases of Bladder	1																					1			
Uterine Tumor (non cancerous)	12													2	2	3	2	1	1			1			
Other Diseases of Uterus	6												1			2	1	1		1					

FEMALE MORTALITY FIGURES FOR NEWARK FOR YEAR 1916—*Continued.*

CAUSES OF DEATH	All Ages	Under 1	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
Cysts and Tumors of Ovary	2	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....	....	....	....
Salpingitis, other Diseases of Female Genital Organs	15	....	....	....	....	....	....	....	....	1	5	1	3	....	4	1	....	....	....	....	....	....	....	....	....
Diseases of Breast (non-puerperal)	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....
VII. THE PUERPERAL STATE—Total	66	....	....	....	....	....	....	....	....	5	14	12	14	16	5	....	....	....	....	....	....	....	....	....	....
Accidents of Pregnancy	4	....	....	....	....	....	....	....	....	1	....	1	1	....	1	....	....	....	....	....	....	....	....	....	....
Puerperal Hemorrhage	10	....	....	....	....	....	....	....	....	1	....	1	4	4	....	....	....	....	....	....	....	....	....	....	....
Other Accidents of Labor	1	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Puerperal Septicemia	36	....	....	....	....	....	....	....	....	2	9	9	6	7	3	....	....	....	....	....	....	....	....	....	....
Puerperal Convulsions	14	....	....	....	....	....	....	....	....	1	4	1	3	4	1	....	....	....	....	....	....	....	....	....	....
Phlegmasia Alba Dolens, Embolus, etc	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....
VIII. DISEASES OF SKIN AND CELLULAR TISSUE—Total	7	4	1	....	....	....	5	....	....	....	1	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Gangrene	1	1	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Furuncle	2	1	....	....	....	....	1	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Acute Abscess	2	1	1	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Diseases of Skin	2	1	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
IX. DISEASES OF BONES AND ORGANS OF LOCOMOTION—Total	5	....	1	....	....	....	1	....	....	1	1	....	....	....	....	....	2	....	....	....	....	....	....	....	....
Diseases of Bones	5	....	1	....	....	....	1	....	....	1	1	....	....	....	....	....	2	....	....	....	....	....	....	....	....
X. MALFORMATIONS—Total	158	154	1	....	1	1	157	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Congenital Malformations	19	15	1	....	1	1	18	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Congenital Debility	110	110	....	....	....	....	110	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Causes, Early Infancy	29	29	....	....	....	....	29	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

FEMALE MORTALITY FIGURES FOR NEWARK FOR YEAR 1916—*Continued.*

CAUSES OF DEATH	All Ages	Under 1	1	2	3	4	Total Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and Over
XI. OLD AGE—Total	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	5
Senility	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	5
XII. EXTERNAL CAUSES—Total	97	8	2	8	6	1	25	13	3	3	3	6	6	8	5	4	2	3	2	3	1	2	3	3	9
SUICIDES—																									
Suicide by Poison	3	—	—	—	—	—	—	—	—	—	—	1	1	—	—	1	—	—	—	—	—	—	—	—	—
Suicide by Asphyxia	3	—	—	—	—	—	—	—	—	—	—	—	1	—	2	—	—	—	—	—	—	—	—	—	—
Suicide by Jumping	2	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—
ACCIDENTS—																									
Acute Poisonings	2	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Burns	24	1	1	6	4	—	12	6	—	1	—	3	1	2	—	—	—	—	—	—	—	—	—	—	—
Absorption of Gases	9	—	—	—	1	1	2	2	—	1	—	—	1	1	—	—	—	—	—	1	1	—	—	—	—
Drowning	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Fall	11	2	—	1	—	—	3	1	—	—	—	1	—	1	—	1	—	1	1	—	1	1	1	—	1
CRUSHING (Vehicles, etc.)—																									
Railroad	2	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Street-car	4	—	—	—	—	—	—	2	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—
Automobile	9	—	—	—	—	—	—	2	2	1	—	—	—	1	2	—	1	—	—	—	—	—	—	—	—
Other Vehicles	2	1	—	1	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Effects of Heat	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Fractures (cause not specified)	11	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	1	1	—	1	2	3	1
Other External Violence	6	4	—	—	1	—	5	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—
HOMICIDES—																									
Homicides by Firearms	4	—	—	—	—	—	—	—	—	—	1	2	1	—	—	—	—	—	—	—	—	—	—	—	—
Homicides by Other Means	3	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	1	—	—	—	—	—	—	—
XIII. ILL-DEFINED DISEASES—Total	3	—	2	—	—	—	2	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Not Specified or Ill-Defined	3	—	2	—	—	—	2	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—